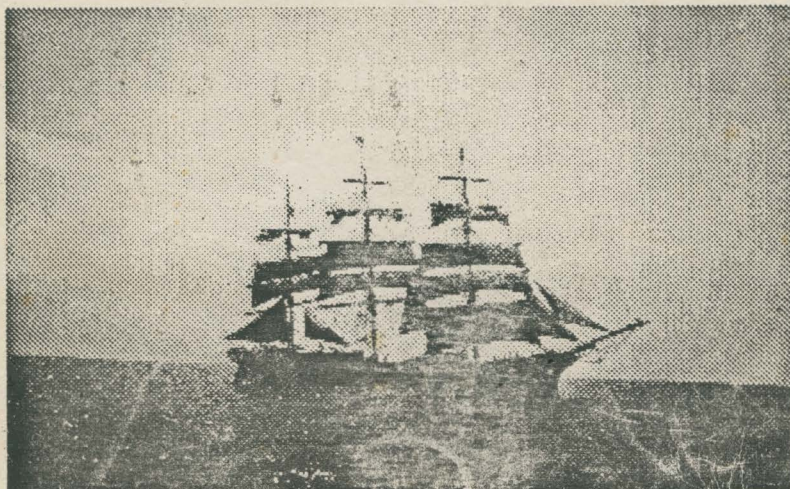


~~CARRIAGE~~

Balclutha Interpretation

11/89

[i.e. 1989]



~~DOCENT~~

~~LIBRARY~~

~~COPY~~

Designed and Produced by the Exhibits Department



San Francisco Maritime
National Historical Park

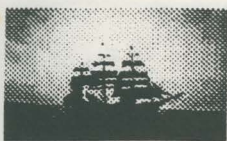


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Introduction to *Balclutha* Phase One Interpretation

This material has been assembled for review, by staff at all levels, of the proposed phase one reinterpretation of the ship *Balclutha*. This package addresses the treatment of the tweendeck and shelterdeck spaces. We will, however, outline further work contemplated, in order that the phase one proposal can be evaluated within the larger context.

The material presented here has been developed by the Exhibit Department over the course of more than two years, and is offered for evaluation both in concept and in detail.

Interpretive mode. What remained in the space was a map of the ship's voyages and three small panels, giving only a hint of the ship's history. The larger, more durable objects were left in place, with their interpretive material.

Planning for the new interpretive material proceeded through several initial proposals and revisions. By FY 1988, a basic approach to the interpretive panels had been developed, approved by park management, and this program funded through Cyclic Maintenance of Exhibits. All outside materials and services required to produce the panels described in this package were procured by the end of that Fiscal Year. Production of stand and panel hardware has proceeded during FY 1989, as has writing and design work on the panels. Production of panel graphics can begin as soon as approvals are received and any required revisions accomplished.

(699841)



This material has been assembled for
new, by staff at all levels, of the
upward phase one reinterpretation of the
up Balclutha. This package addresses the
element of the weekend and shelterdeck
areas. We will, however, outline further
work contemplated, in order that the phase
proposal can be evaluated within the
proper context.
The material presented here has been
developed by the Exhibit Department over
a course of more than two years, and is
intended for evaluation both in concept and
detail.



Current Status of Tweendeck and Shelterdeck Material

In the original interpretive presentation of the ship, largely completed in 1955, the tweendeck was the site of a series of large panels dealing with the basic history of the vessel. Some additional graphic material dealing with the grain trade was placed in the shelterdeck. The tweendeck was also used as a display space for artifacts, some relating to square-rigged vessels and some not. The lumber ports and the Chinese quarters were interpreted. In the main hatch below the tweendeck contained mocked-up cargo and a model of a cannery. In 1986 a number of the artifacts were removed, on the grounds that the environment could not be controlled sufficiently to insure their preservation. Also removed at that time were the large interpretive panels on the history of the vessel. These panels were water damaged and in poor condition. Rather than renovate these panels, or replace them in kind, the Exhibit staff was instructed to remove them and begin planning for a new

interpretive mode. What remained in the space was a map of the ship's voyages and three small panels, giving only a hint of the ship's history. The larger, more durable objects were left in place, with their interpretive material.

Planning for the new interpretive material proceeded, through several initial proposals and revisions. By FY 1988, a basic approach to the interpretive panels had been developed, approved by park management, and this program funded through Cyclic Maintenance of Exhibits. All outside materials and services required to produce the panels described in this package were procured by the end of that Fiscal Year. Production of stand and panel hardware has proceeded during FY 1989, as has writing and design work on the panels. Production of panel graphics can begin as soon as approvals are received and any required revisions accomplished.



Basic Approach to Interpretation

The two underlying principles of our interpretive approach are as follows:

A—*The history and historical context of the ship must be conveyed through graphic panels.*

Live interpretation should compliment and enliven this basic body of material, which would be available to all visitors at all times. Graphic panels should in no case be allowed to dominate a given space, and must be attractive and accessible to a wide spectrum of visitors. Panels in the tweendeck will deal with the ship's career as a deepwater cargo vessel, and panels in the shelterdeck will deal with the Alaska Packers period and the vessel's. (These two areas are the subject of the current proposal.) Panels in the after hold area will deal with the ship's construction. Panels in the furnished spaces will deal with the life and cultural context of the ship's people. Panels on deck will deal with the operations of the vessel and the nature of ship's work.

B—*The ship should be presented in a state as nearly as possible resembling her condition as a British deepwaterman.*

The ideal is to create for the visitor the illusion of walking onto a working British square-rigger during the 1890s. This principle should carry throughout the ship,

including all interior spaces which are accessible to the public. In terms of the current proposal, this means that the tweendeck should be converted from its current use as a gallery for the display of nautical artifacts to a re-creation of its appearance during the cargo ship period. In this as in other areas, the graphic panels are a compromise of the illusion of historical reality, but, with limitations in the size and number of panels, are considered necessary for the educational purposes of the ship. Modern lighting and staircase access are also necessary compromises. The impact of the lighting can be minimized, as will be discussed, through the use of electrified period-type fixtures and very selective use of spot lighting. The shelterdeck area, added during the Packer period, is anachronistic to the earlier era and the interior should therefore not be restored. This space will be used for public assembly and will house Packer era graphic material.



Compliance with Approved Interpretative Prospectus

The current package conforms to the recommendations of the "Interpretive Prospectus" as approved in 1987. Major points of agreement are as follows:

"-Wayside exhibits [graphic panels] play a major role in the interpretation below decks, but are limited in size, number, and complexity." (Pg. 73)

"-Panels are aimed directly at an understanding of the vessel and the deepwater trade." (Pg. 73)

"-Both bare space and furnished cargo space are provided in the tweendeck." (Pg. 72 & 73)

"-Wayside exhibits in area dating from STAR OF ALASKA period (the shelterdeck) interpret that period. Graphics in other areas interpret the *Balclutha* period." (Pg. 69)

"-Panels make extensive use of historical quotes and historical and contemporary graphics." (Pg. 69)

"-Panels "have the same basic design" as the Hyde Street Pier wayside series." (They share a basic look but are by no means identical.) (Pg. 72)

Panels to be placed in the shelterdeck relate to the ship's work as a cannery supply vessel, and briefly to the circumstances of her preservation. Again, this material is appropriate to a space built specifically to house fishermen traveling to the canneries. A theme statement might read: "As the *Star of Alaska*, the ship served as a supply vessel for salmon canneries in Alaska." Material relates to the vessel's history and historical context in this industry. Two panels relating to her post-commercial preservation round out the story of the ship's career.

As noted, the panel groups are essentially non-sequential. Each cluster of two or three panels is designed to provide answers to basic questions about the ship and her career. The groups, and the questions which they address can be stated as follows:

-Tweendeck Introduction Group-"Where am I on the ship and what was this space used for?"

-Cargo Group-"What sort of cargo did she carry and how was it moved and stowed?"

-Shipping Group-"Who owned the ship? Was she profitable? Were there other ships doing similar work?"



Conceptual Approach to Panels

In planning for the graphic interpretation of the *Balclutha*, it has been our assumption that most visitors will roam freely through the ship, and the great majority will have little or no contact with a live interpreter. The ship, therefore, should be a self-guided experience. There is no predictable route or traffic pattern to such a visit, and therefore no sequence of exposure to the graphic material can be assumed. Panels, or panel clusters, must be independent of one another.

Ideally, the visitor would come away from the ship with some idea her historical functions, her nationality, and the period and general context of her operations. The interest and sophistication level of visitors obviously varies widely. To be responsive to visitor needs, therefore, the graphic material must be accessible on a number of different levels, from a casual glance to glean the basic point, to a full reading for more depth of information.

Panels to be placed in the tweendeck area relate to the ship's work as a deepwater cargo carrier. In this cargo area, a theme statement might read: The *Balclutha* was built and operated as a sailing cargo ship." All material is centered around her nature as a cargo vessel and the history and historical context of her career as a cargo carrier.

Panels to be placed in the shelterdeck relate to the ship's work as a cannery supply vessel, and briefly to the circumstances of her preservation. Again, this material is appropriate to a space built specifically to house fishermen traveling to the canneries. A theme statement might read: "As the *Star of Alaska*, the ship served as a supply vessel for salmon canneries in Alaska." Material relates to the vessel's history and historical context in this industry. Two panels relating to her post-commercial preservation round out the story of the ship's career.

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- Shipping Group-"Who owned the ship? Was she profitable? Were there other ships doing similar work?"



Approach to the Tweendeck Space

- Builder Group-"Who built the ship? Were many similar ships built?"
- Voyages Group-"Where did the ship go and what cargoes did she carry?"
- Cape Horn Group-"Why did the ship sail around Cape Horn, and what was it like?"
- Grain Group-"Why was grain such an important cargo for the ship?"
- Transitional Group-"How did the ship end up sailing out of San Francisco?"
- Shelterdeck Introductory Group
- Where am I on the ship and what was this space used for?"
- Packer History Group-"What company owned the ship, and how did the company come about?"
- Star Fleet Group-"What other ships did the company own?"
- Star of Alaska History Group-"Where did the ship go?"
- Alaska Voyage Group-"What was the voyage like? What did the ship carry?"
- Alaska Operations Group-"What was it like in Alaska?"
- Post-Commercial Group-"How did the ship come to be preserved?"

-Paint space a uniform medium gray,

approximating white lead and lampblack.

-Restore cargo battens throughout.

-Renew lighting system, using fewer and smaller spotlights to illuminate graphic panels, and electrified period cargo light type fixtures for ambient lighting at lower than current level.

While it is perhaps unlikely that any one individual will want full information on each of the questions addressed here, a reasonable sense of the history and context of the vessel can be gathered from a quick scan of panel titles, illustrations and perhaps lead statements. If a visitor's interest is aroused in any area, a fuller explanation is available in the text blocks. While the material is imposing viewed as a single mass, we would argue that when spread over the considerable area of the tweendeck and the shelterdeck to be ignored, scanned, or absorbed at the visitor's option it becomes manageable and appropriate to the situation.

-Install examples of cargo handling gear, including hand trucks, timber and box rollers, cargo slings and hooks.

-Install graphic panels. As indicated on accompanying plans, the panels are to be arranged through the space so as to minimize their impact on the historic scene.

-Install video monitor for presentation in connection with Cape Horn passage. Monitor is arranged to localize visual and audio impact on the space.

As noted above, the current proposal dealing with treatment of the tweendeck and shelterdeck area is the first phase of a contemplated larger program of reinterpretation.



Approach to the Tweendeck Space

Our proposal assumes that the best possible restoration and interpretation of an historic vessel, and all of her public spaces, returns the vessel as closely as possible to her appearance at a given period in her history. Interpretive material should provide the visitor with an informed understanding of the nature and significance of the vessel and her component parts, while intruding as little as possible on the historic scene. This approach conforms to both NPS and generally accepted preservation doctrine. The need for a more historically accurate presentation is argued strongly in the "Interpretive Prospectus".

Our proposal would return the tweendeck space to a state closer to its deepwater period appearance, eliminating the current use as a gallery.

Elements of this plan are as follows:

- Remove remaining artifacts from the space.
- Remove remainder of linoleum and cement now covering deck. Make any needed repairs to deck to insure visitor safety.
- Paint space a uniform medium gray, approximating white lead and lampblack.
- Restore cargo battens throughout.
- Renew lighting system, using fewer and smaller spotlights to illuminate graphic panels, and electrified period cargo light type fixtures for ambient lighting at lower than current level.

-Install cargo elements, based on voyage of 1897. Recreate as accurately as possible the incoming cargo elements, based on existing manifest. Also install sacked wheat. The concept is to present a situation in which the inbound cargo is partially unloaded and a grain cargo partially loaded. This scenario takes some small liberty with the probable historical process, but allows us to show the range of goods carried. All cargo to be accurately stowed. In the case of the sacked wheat, this involves installation of centerline shifting boards, and a lining of plank and fabric along the hull. In the stern, install timber as cargo.

-Install examples of cargo handling gear, including hand trucks, timber and box rollers, cargo slings and hooks.

-Install graphic panels. As indicated on accompanying plans, the panels are to be arranged through the space so as to minimize their impact on the historic scene.

-Install video monitor for presentation in connection with Cape Horn passage. Monitor is arranged to localize visual and audio impact on the space.

As noted above, the current proposal dealing with treatment of the tweendeck and shelterdeck area is the first phase of a contemplated larger program of reinterpretation.



Approach to Shelterdeck Interpretation

Our proposal does not call for any restoration of the internal compartments or furnishings of the shelter deck. As this area was added by the Alaska Packers, and the ship as a whole has been restored to the British period, we feel that furnishing the shelterdeck would confuse visitors. This approach is supported by the "Interpretive Prospectus."

We propose to use the space first to house interpretive material relating to the Alaska Packers period, and secondly as an area for public assembly and programs. The existing port-side cabins would be retained as offices and for other non-public use. The interpretive material would be set up so as to allow continued use of the space for public assemblies.

The lighting system would be altered to use the same smaller spots employed in the tweendeck. Explosion-proof fixtures, suitable for the Packers period, would provide ambient lighting.

The Packers period mess table, now in the space, would be replicated for use in connection with food service during events. As the original table is properly a historic artifact, its continued use for this purpose is inappropriate. Approximately twelve replicas of a good looking old bench now aboard the ship will be produced to serve as seating for events and for the general public.

Provide Access to Chinese Quarters
-Provide public access to berthing area for Chinese cannery hands, located in forward section of the tweendeck. Access would be through fore hatch. Partition off area required for use by modern maintenance crew. Refurbish existing Chinese berths. Provide interpretive graphics.



Additional Phases of Interpretation

Replacement of Deck Panels

-Renew panels on weather decks, making use of much of the current material including Gordon Grant line drawings, but produced in porcelain enamel and graphic style compatible with Pier waysides and tweendeck material.

Furnished Spaces: Complete and or Improve Restoration

-Following an Historic Furnishings Report, based in part on newly uncovered material from the builder's yard, upgrade presentation of furnished spaces. Furnish apprentice quarters. Add tables in fo'c'sle. Re-examine layout of pantry aft. Furnish mate's and or steward's cabin aft.

Renew Graphics Panels in Furnished Spaces

-Produce new graphics panels for furnished spaces, again making use of much current material, but using back-screened acrylic, in style compatible with tweendeck material.

Provide Access to Restored Lower Hold

-Provide public access to hold through mizzen hatch from the tweendeck. Clear ballast and other modern additions from after section of hold. Reinstall hold liners and bottom "ceiling" planking as per original construction. Provide interpretive graphics dealing with the construction of iron and steel sailing ships. Provide walkway through the hold to the area of the main hatch. Relocate ballast in this area and install ceiling planks. Furnish perimeter of main hatch hold area with cargo. Provide railing around main hatch at tweendeck level, so that visitors can see down to bottom of ship from tweendeck.

Provide Access to Chinese Quarters

-Provide public access to berthing area for Chinese cannery hands, located in forward section of the tweendeck. Access would be through fore hatch. Partition off area required for use by modern maintenance crew. Refurbish existing Chinese berths. Provide interpretive graphics.



Technical and Design Approach to Panels

Chief among the technical and design criteria considered were the following:

- Professional quality at reasonable cost
- Clean graphic treatment, allowing modern use of historical images
- Compatibility with porcelain enamel Hyde Street Wayside panels
- High resistance to water and humidity damage
- Little or no need for resistance to ultraviolet light
- Ability to use photographic rather than half-tone prints
- Panels accessible to visually and movement impaired
- In-house production desirable in terms of cost and flexibility
- Stand system must free-stand, as attachment to historic deck is impossible
- Stand system unobtrusive, durable, clearly not part of historic structure, yet compatible with historic ambiance

Panel System

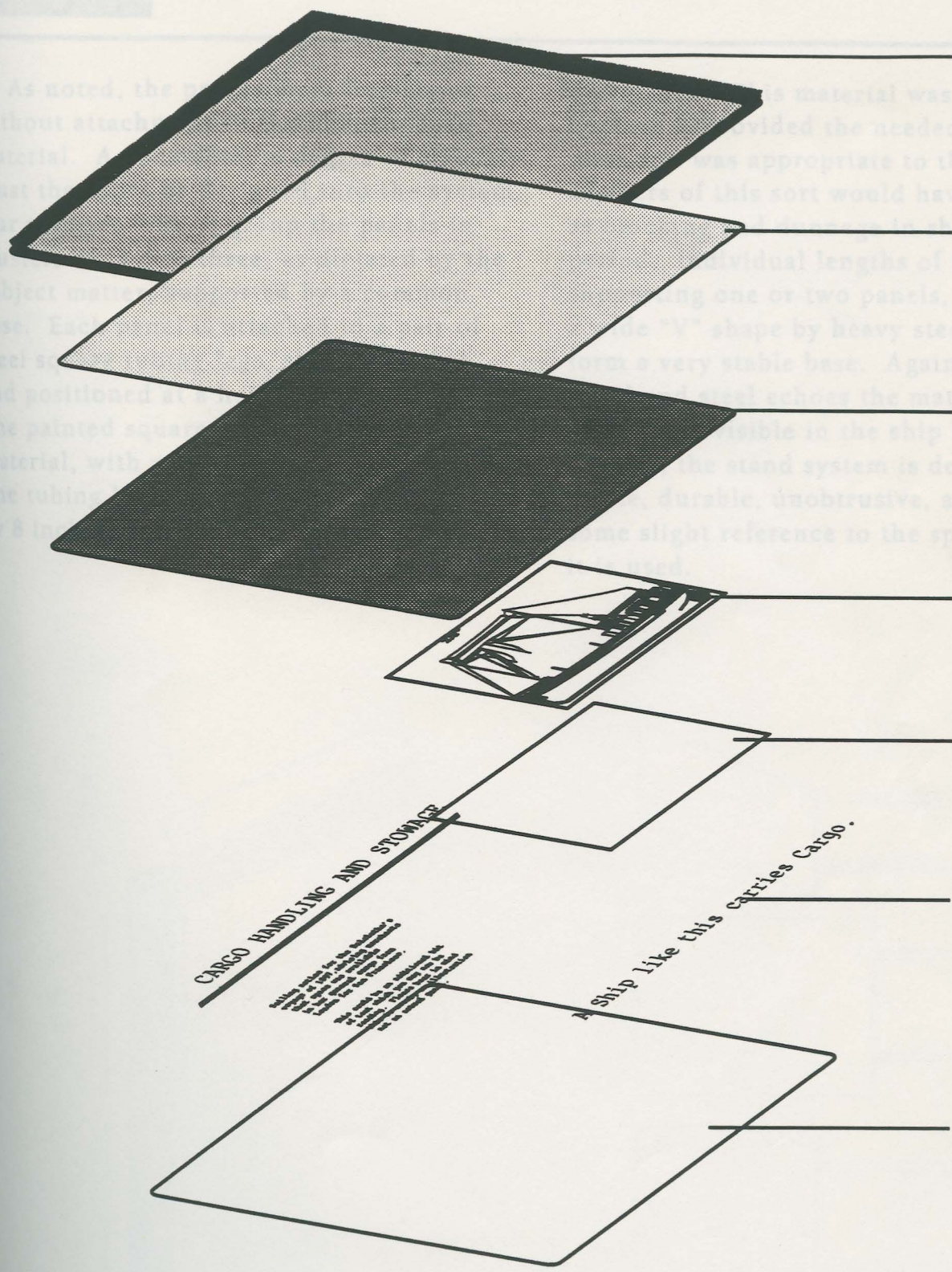
We began by eliminating porcelain enamel on the basis of high cost, need for half-tone photos, and lack of flexibility. Porcelain seems the answer for exterior use where ultraviolet is a factor, but is not suitable for interior use. We also rejected fiberglass embedment on the basis of cost, need for contract fabrication, and visual incompatibility with the Pier waysides.

The system we propose is back lamination and back screening on acrylic sheet, with an overall background color applied by roller. This technique, used by

the Monterey Aquarium, offers excellent water and humidity resistance, ability to use photographic prints, ability to fabricate in-house with relatively simple equipment, and relatively low initial cost.

Our system involves the use of an 1/8" acrylic panel, with a slightly matte surface to minimize the impact of small scratches. Corners are radiused and edges beveled. Text and line art are silk-screened in reverse on the back surface. Water-based ink is used to eliminate solvent hazards. Up to three colors may be used. Photographic images on paper are pressure laminated to the back surface using optically clear double-sided film. A color coat of latex paint is applied over the back, allowing text, line art, and photographs to show against a uniform background color. A sheet of single-sided protective film is pressure laminated over the back surface.

The completed acrylic graphics panel sandwich is then attached by screws to a plywood back panel. Our proposal uses a 3/4" panel of moisture resistant Medium Density Overlay plywood (MDO), edge-framed with one inch of varnished teak. The back panel is radiused to match the acrylic graphics panel, and is sized to allow 3/8" of the teak trim to be visible from the front. The back of the panel is color-coated with the full teak trim visible. The result is a clean-lined panel, using contemporary line art and photographs, with a modest reference to the varnished teak found aboard the ship. The graphic panel, with radiused corners and a similar graphic treatment, clearly refers to the Hyde Street wayside series, without exactly copying it.



MDO and Teak
Back Panel

Protective Cover

Paint Coating

Photograph

Optically clear
Adhesive

Screened text
and Graphics

Matte acrylic sheet

Exploded View of Panel Construction

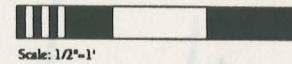
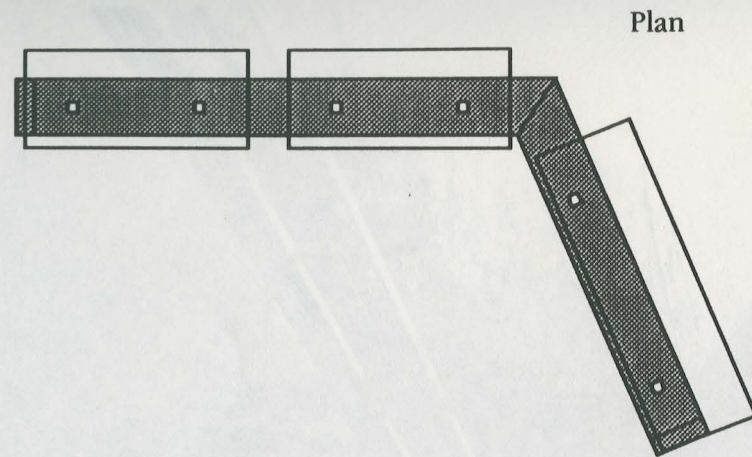


Stand System

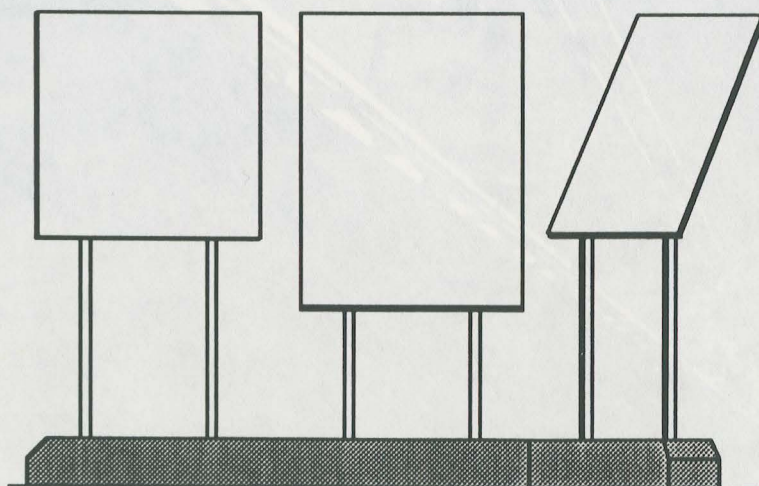
As noted, the panels must free-stand, without attachment to the historic deck material. A considerable degree of stability must therefore be designed into the system. Our solution was to group the panels in clusters of two or three, as dictated by the subject matter, supported by a common base. Each panel is attached to a pair of steel square tubing legs, slightly angled, and positioned at a height for easy reading. The painted square tubing is a fairly neutral material, with a slight industrial reference. The tubing legs are set in bases of heavy 6 by 8 inch fir timber, unplanned and

unfinished. This material was chosen because it provided the needed weight and mass and was appropriate to the space. Timbers of this sort would have been used as blocking and dunnage in ships of the period. Individual lengths of timber, supporting one or two panels, are joined in a wide "V" shape by heavy steel plates to form a very stable base. Again, the use of wood and steel echoes the materials and techniques visible in the ship herself. Overall, the stand system is designed to be stable, durable, unobtrusive, and to have some slight reference to the space in which it is used.

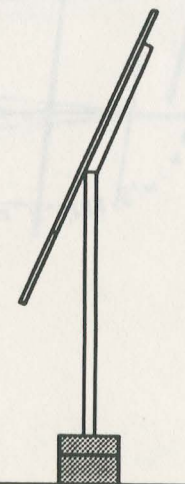
Typical Panel
Arrangement
on *Balclutha*
Tweendecks



Scale: 1/2"=1'



Front Elevation



Side Elevation
of Single Stand



List of Panels

Tweendeck Panels

Introductory Group

T1- Locator Panel

T2- Tween Deck Text Panel

Cargo Group

T3- Cargo Text Panel

T4- Cargo Handling and Stowage Graphics Panel

T5- Oil Stowage Panel

Shipping Group

T6- Ship History Introductory Panel

T7- Robert McMillan Panel

T8- British Shipping Panel

Butler Group

T9- Connell Text and Graphics Panel

T10- British Shipbuilding Panel

Voyages Group

T11- Balclutha's Voyages

T12- Voyages Text Panel

T13- Balclutha Voyages Graphics Panel

Cape Horn Group

T14- Cape Horn Passage Chart

T15- Cape Horn Text Panel

Corn Group

T16- Corn Farming

T17- Grain Shipping Graphics Panel

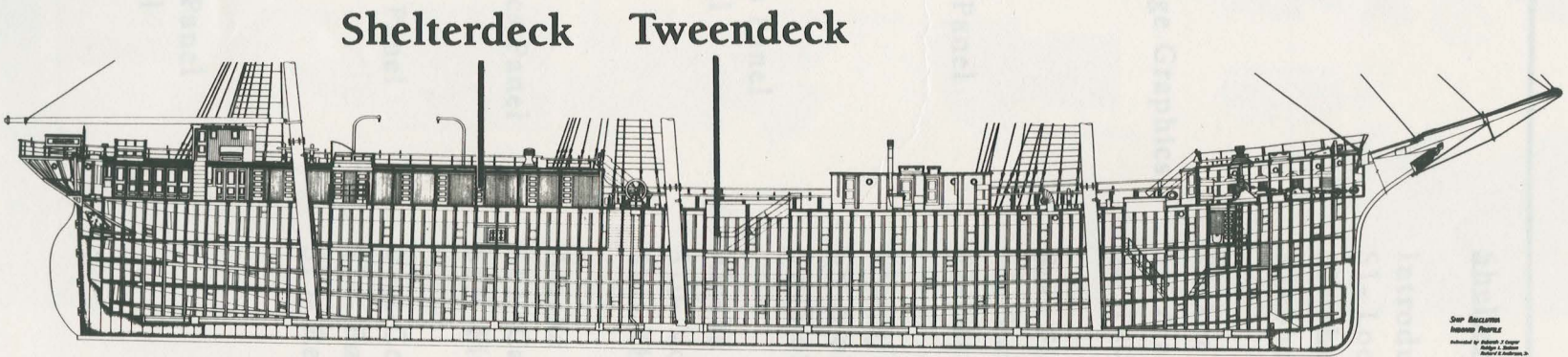
T18- Grain Shipping Text Panel

Traditional Group

T19- Hawaiian Regatta

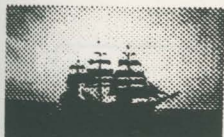
T20- Toys and Toys

T21- Charter and Travel



SHIP RECONSTRUCTION
HAWAIIAN PEOPLE
Illustrated by Robert L. Taylor
Designed by Robert L. Taylor
Scale 1/4" = 1'-0"

Balclutha Inboard Profile



List of Panels

Twendeck Panels

Introductory Group

- T1- Locator Panel
- T2- Tween Deck Text Panel

Cargo Group

- T3- Cargo Text Panel
- T4- Cargo Handling and Stowage Graphics Panel
- T5- Grain Stowage Panel

Shipping Group

- T6- Ship History Introductory Panel
- T7- Robert McMillan Panel
- T8- British Shipping Panel

Builder Group

- T9- Connell Text and Graphics Panel
- T10- British Shipbuilding Panel

Voyages Group

- T11- Balclutha's Voyages
- T12- Voyages Text Panel
- T13- Balclutha Voyages Graphics Panel

Cape Horn Group

- T14- Cape Horn Passage Chart Panel
- T15- Cape Horn Text Panel

Grain Group

- T16- Grain Farming
- T17- Grain Shipping Graphics Panel
- T18- Grain Shipping Text Panel

Transitional Group

- T19- Hawaiian Registry
- T20- Pope and Talbot
- T21- Charter and Wreck

Shelterdeck Panels

Introductory Group

- S1- Locator Panel
- S2- Shelter Deck Text Panel
- S3- Shelter Deck Graphics Panel-

Packer History Group

- S4- Alaska Packer History Graphics
- S5- Packer History Map and Text

Star Fleet Group

- S6- Star Fleet Text
- S7- Star Fleet Graphics

Star of Alaska History Group

- S8- S of A as Chignik Ship, Text
- S9- S of A as Chignik Ship, Graphics

Alaska Voyage Group

- S10- Voyage to Alaska, Map and Text
- S11- The Voyage to Alaska, Graphics

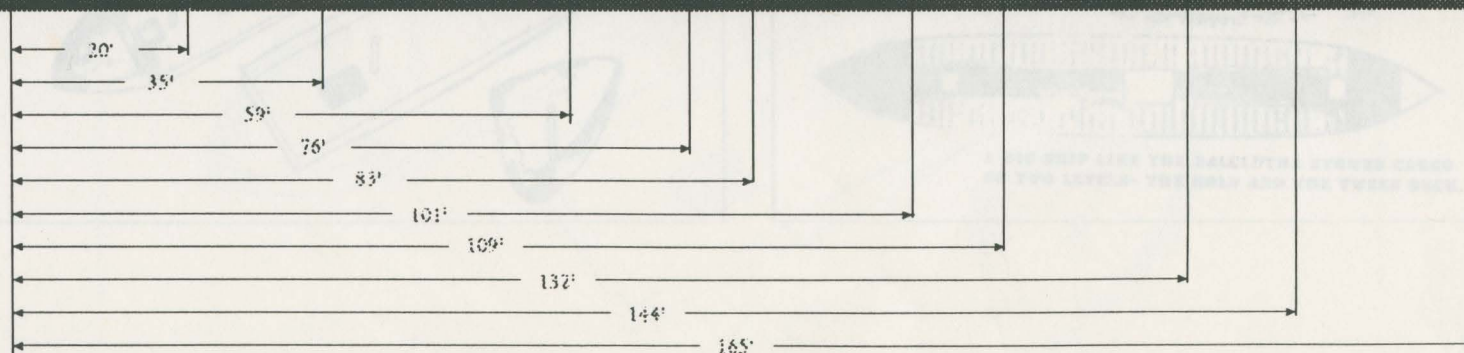
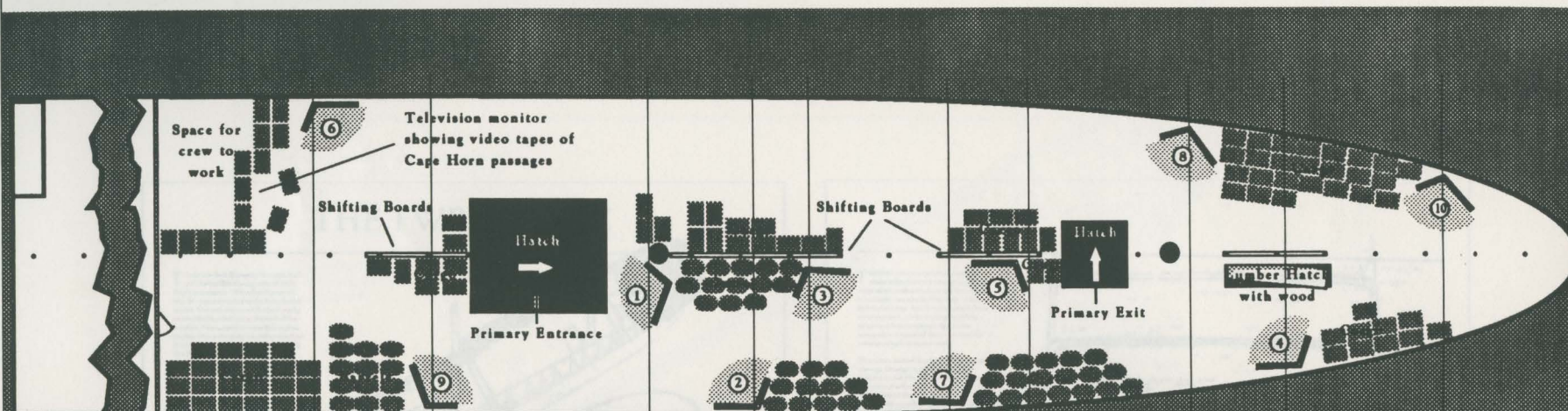
Alaska Operations Group

- S12- Cannery Operations
- S13- Fishing Operations

Post-Commercial Group

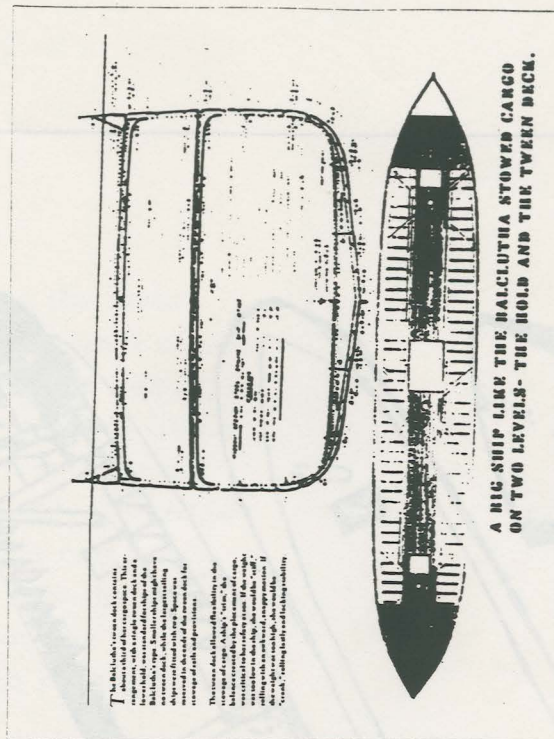
- S14- *Pacific Queen*
- S15- Restoration

Balclutha Tweendecks Panels & Cargo



- ① Tweendeck Panels 1 & 2—Locator Panel
- ② Tweendeck Panels 3, 4 & 5—Cargo Panels
- ③ Tweendeck Panels 6, 7 & 8—History Introduction
- ④ Tweendeck Panels 9, 10 & 11—Connell & Shipbuilding
- ⑤ Tweendeck Panels 12, 13 & 14—Balclutha's Voyages

- ⑥ Tweendeck Panels 15 & 16—Cape Horn
- ⑦ Tweendeck Panels 17, 18 & 19—The Grain Trade
- ⑧ Tweendeck Panels—Late History
- ⑨ Cargo Panels (proposed)
- ⑩ Lumber Port Panels (proposed)





T1- LOCATOR PANEL (30" x 40")

Title

T1-1 THE TWENDECK

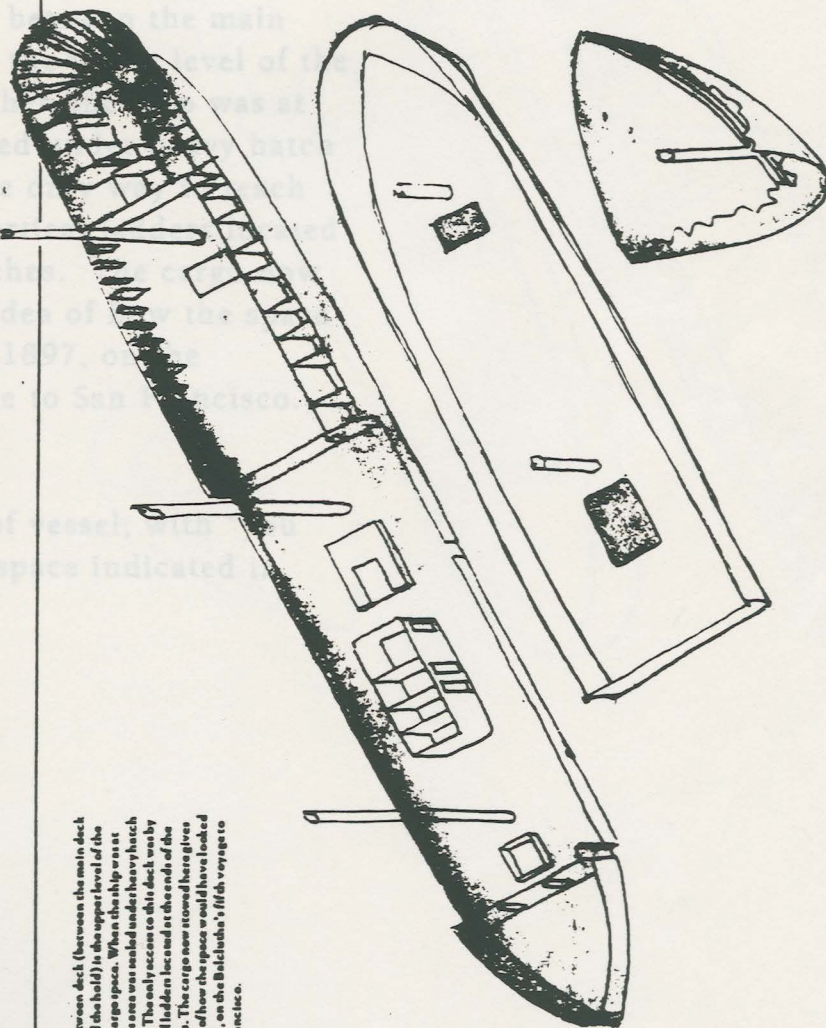
Key Label

T1-2 The tweendeck - between the main deck and the hold - is the upper level of the ship's cargo space. When the ship was at sea, this area was sealed off by watertight covers. Originally, access to this deck was down ladders at the ends of the ship. The cargo now stored here gives an idea of how the space would have looked in 1897, on the Balclutha's fifth voyage to San Francisco.

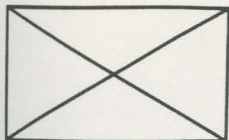
Graphic

T1-3 Simplified plan of the ship, with the "here" marker and spaces indicated by crosshatch or color.

THE TWENDECK



The tweendeck (between the main deck and the hold) is the upper level of the ship's cargo space. When the ship was at sea, this area was sealed under heavy hatch covers. The only access to this deck was by vertical ladders located at the ends of the hull. The cargo now stored here gives an idea of how the space would have looked in 1897, on the Balclutha's fifth voyage to San Francisco.



Tweendeck Panel

Introductory Group

T1- LOCATOR PANEL (30" x 40")

Title

T1-1 THE TWEENDECK

Key Label

T1-2 The tweendeck - between the main deck and the hold - is the upper level of the ship's cargo space. When the ship was at sea, this area was sealed under heavy hatch covers. Originally, the only way to reach this deck was down vertical ladders located at the ends of the hatches. The cargo now stowed here gives an idea of how the space would have looked in 1897, on the Balclutha's fifth voyage to San Francisco.

Graphic

T1-3 Simplified plan of vessel, with "you are here" marker and space indicated in crosshatch or color.

T2- TWEENDECK TEXT PANEL (30" x 40")

Lead

T2-1 Big sailing ships like the *Balclutha* stowed cargo on two levels- the hold and the tweendeck.

Key Label

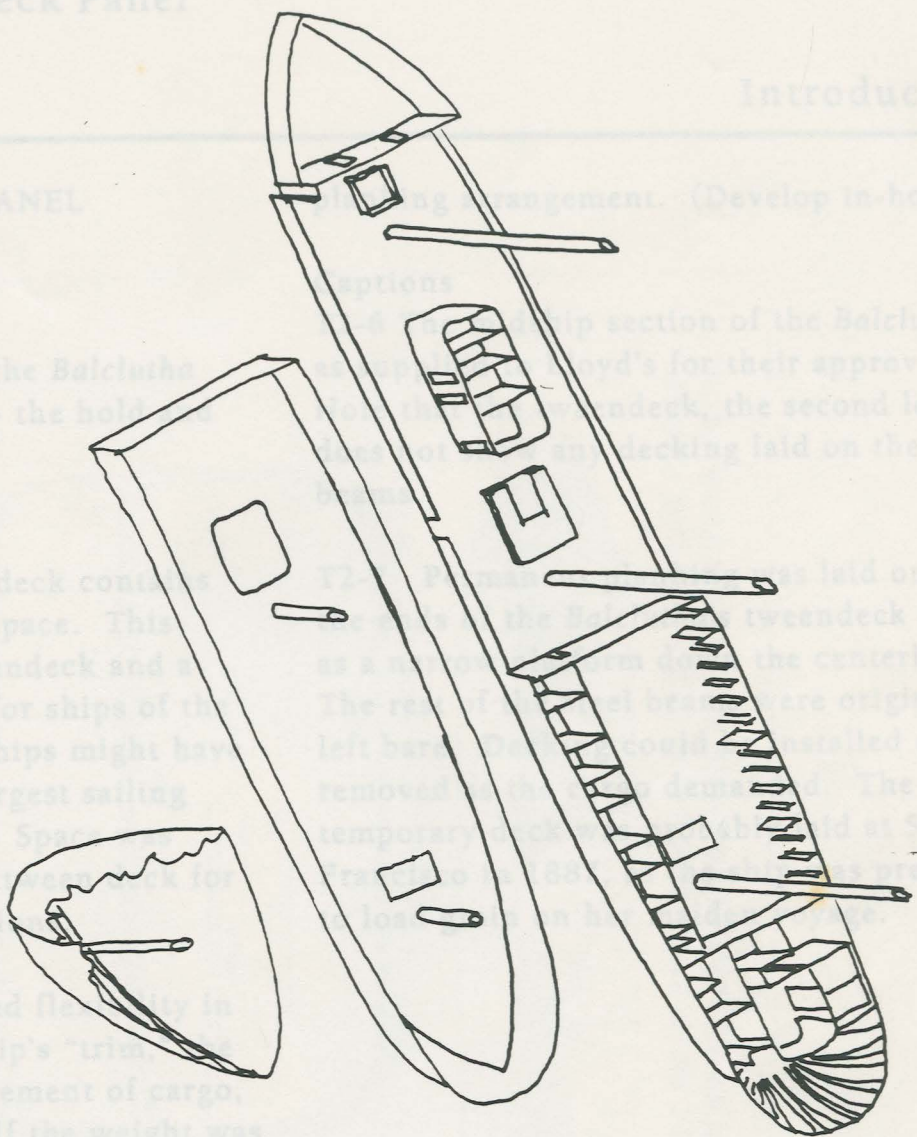
T2-2 The *Balclutha's* tweendeck contained about a third of her cargo space. This arrangement - a single tweendeck and a lower hold - was standard for ships of the *Balclutha's* type. Smaller ships might have no tweendeck, while the largest sailing ships were fitted with two. Space was reserved in the ends of the tweendeck for stowage of sails and provisions.

T2-3 The tweendeck allowed flexibility in the storage of cargo. A ship's "trim" or balance was affected by the placement of cargo, vital to her safety. If the weight was too low in the ship, she would be "stiff," sailing with an awkward, snappy motion. If the weight was too high, she would be "lumpy," sailing heavily and lacking stability.

Caption

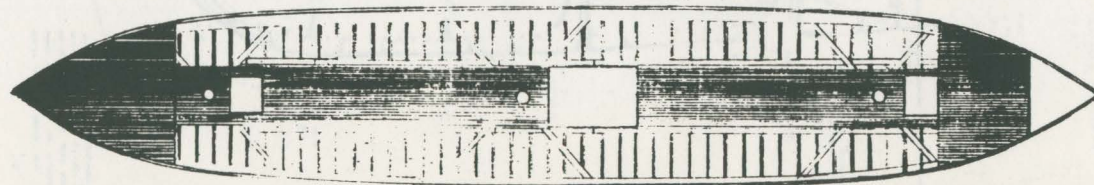
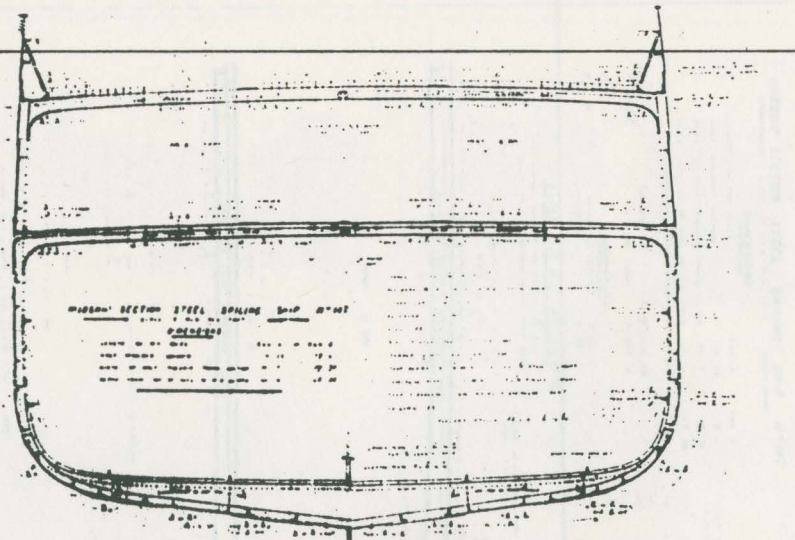
The ship's midships section for *Balclutha* (1841-1842)

T2-4 Stowage of tweendeck permanent



The Balclutha's tween deck contains about a third of her cargo space. This arrangement, with a single tween deck and a lower hold, was standard for ships of the Balclutha's type. Smaller ships might have no tween deck, while the largest sailing ships were fitted with two. Space was reserved in the ends of the tween deck for stowage of sails and provisions.

The tween deck allowed flexibility in the stowage of cargo. A ship's "trim," the balance created by the placement of cargo, was critical to her safety at sea. If the weight was too low in the ship, she would be "stiff," rolling with an awkward, snappy motion. If the weight was too high, she would be "crank," rolling lazily and lacking stability.



A BIG SHIP LIKE THE BALCLUTHA STOWED CARGO ON TWO LEVELS- THE HOLD AND THE TWEEN DECK.



Tweendeck Panel

Introductory

T2- TWEENDECK TEXT PANEL

(30" x 40")

Lead

T2-1 Big sailing ships like the *Balclutha* stowed cargo on two levels- the hold and the tweendeck.

Key Label

T2-2 The *Balclutha*'s tweendeck contains about a third of her cargo space. This arrangement - a single tweendeck and a lower hold - was standard for ships of the *Balclutha*'s type. Smaller ships might have no tweendeck, while the largest sailing ships were fitted with two. Space was reserved in the ends of the tween deck for stowage of sails and provisions.

T2-3 The tweendeck allowed flexibility in the stowage of cargo. A ship's "trim," the balance created by the placement of cargo, was critical to her safety. If the weight was too low in the ship, she would be "stiff," rolling with an awkward, snappy motion. If the weight was too high, she would be "crank," rolling lazily and lacking stability.

Graphics

T2-4 Lloyd's midships section for *Balclutha* (S.35,930nl)

T2-5 Drawing of tweendeck permanent

planking arrangement. (Develop in-house.)

Captions

T2-6 The midship section of the *Balclutha*, as supplied to Lloyd's for their approval. Note that the tweendeck, the second level, does not show any decking laid on the steel beams.

T2-7 Permanent planking was laid only at the ends of the *Balclutha*'s tweendeck and as a narrow platform down the centerline. The rest of the steel beams were originally left bare. Decking could be installed or removed as the cargo demanded. The first temporary deck was probably laid at San Francisco in 1887, as the ship was prepared to load grain on her maiden voyage.

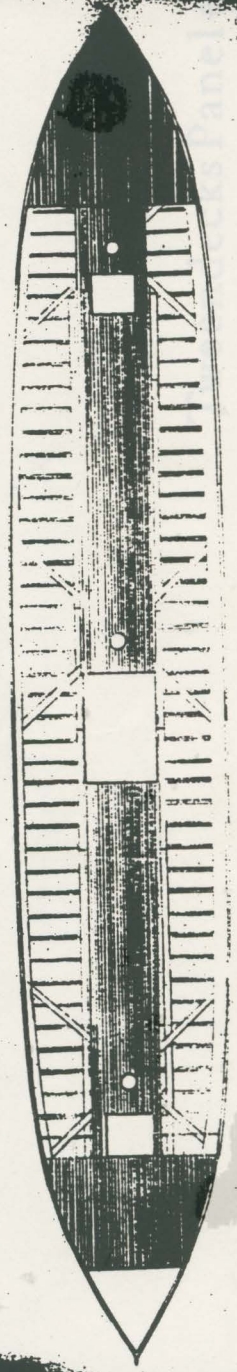
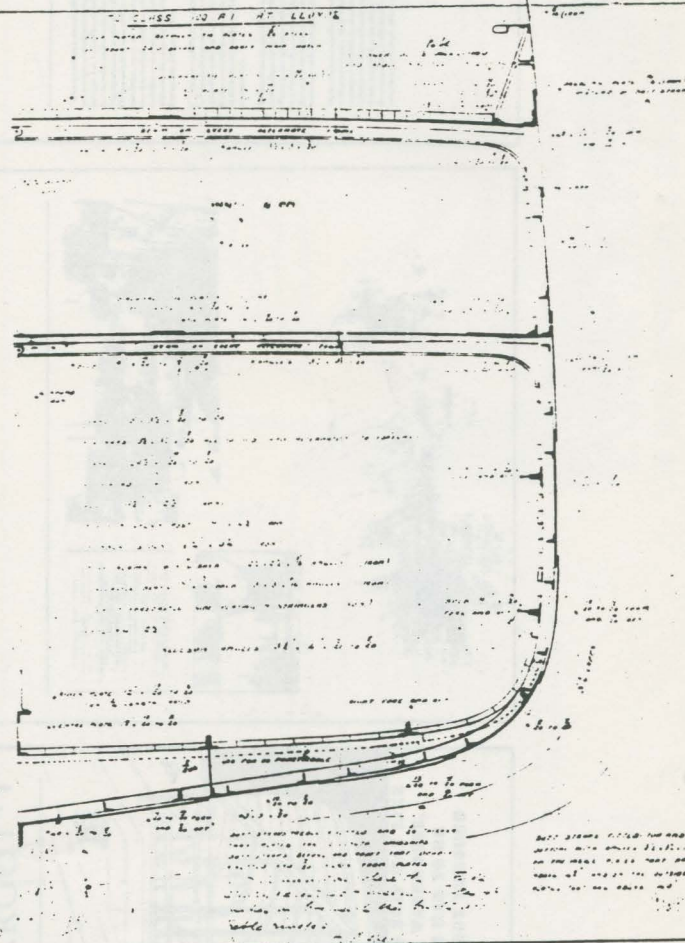
MIDSHIP SECTION STEEL SAILING SHIP N°147

DIMENSIONS

LENGTH OF THE SHIP	100.00	FEET
BEAM AT THE MAIN DECK	17.00	FEET
DEPTH AT THE MAIN DECK	17.00	FEET
DEPTH FROM THE BASE LINE TO THE MAIN DECK	17.00	FEET

PROPORTIONS

LENGTH TO BEAM	5.88
LENGTH TO DEPTH	5.88



The Bokhutha's cargo gear was primitive even for her time. The ship's main and lower portholes suggested this; they used to lift or lower cargo through the hatch. The Bokhutha, unlike many sailing ships, did not have a steam-hoist derrick or a "dandy engine." Hand-powered cargo winches were fitted on deck near the hatches. Shore equipment, such as portable dandy engines, was sometimes available, but cargo was often moved entirely by hand.

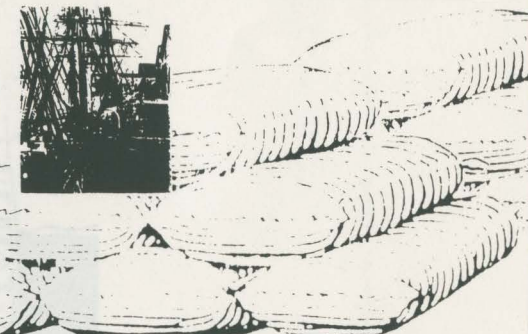


An aerial photograph showing a large stadium in the foreground, surrounded by urban development and green spaces. The stadium has a distinctive roof structure. In the background, a dense urban area with various buildings and a river or canal is visible.

"When special precautions would you take if you are going to load grain in bags for a long passage? Ans. I would line the hold or with boards and cover them with old sails, tarping, bagging or mats; I would cover all haws to enable it to come in contact with the cargo, such as manila, mats, etc. and lash down shifting boards on both sides of the stanchions midships, so as to form a fore and aft bulkhead to prevent the cargo shifting." *Nicholls' Seamanship*, Chicago, 1905

To lessen the danger of shifting, grain for sailing ships was packed in 100-pound bags. The bags rowed into a scabbie mass. Holds were lined with extra planking and fabric to prevent moisture damage and to keep leaking grain from logging the pumps.

On her four passages from San Francisco with grain cargoes, the *Baldwin* carried an average of 19,000 bags of wheat or about 2,400 tons. This much grain would have filled about 90% of the ship's cargo space. By comparison, 2,400 tons of oil would only about two-thirds of her cargo area.



IN SAILING SHIPS, GRAIN WAS ALWAYS CARRIED IN BAGS, TO PREVENT IT FROM MOVING IN THE HOLD.

T3- CARGO TEXT PANEL (30" x 30")

Title

T3-1 LOADING CARGO

Lead

T3-2 A sailing cargo ship was

movable warehouse, but

be hoisted in and out the

Key Label

T3-3 The Balclutha

of cargo. This

the water line

Mark' on her

capacity, expressed

quite different

of 1,689. Registered

of volume rather

tons of 100 cubic

T3-4 The Balclutha

three hatches.

18 feet, was the

small as a sailing

with wooden

hatches were

ships. If a

weather, seas

and sink the ship.

T3-5 The Balclutha's

primitive even

lower yards

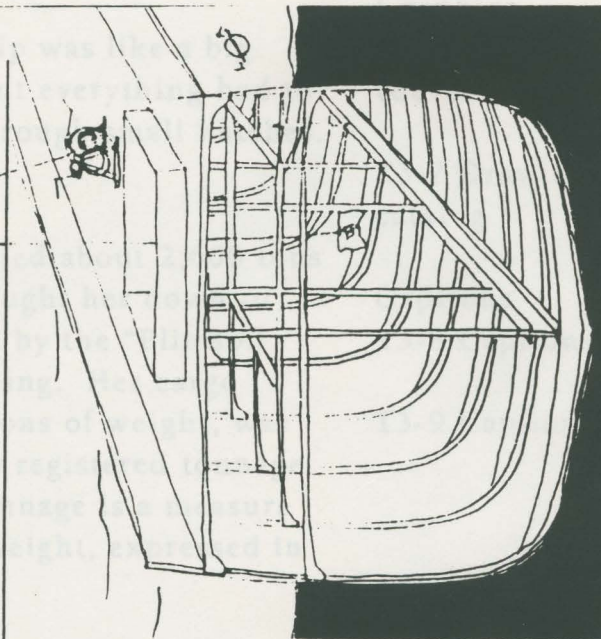
lift or lower

The Balclutha,

did not have

"donkey engines."

LOADING CARGO



The Balclutha could carry about 2,600 tons of cargo. This load brought her down to the water line indicated by the "Plimsoll Mark" on her outside plating. Her cargo capacity, expressed in tons of weight, was quite different from her registered tonnage of 1,689. Registered tonnage is a measure of volume rather than weight, in tons of 100 cubic feet.

The Balclutha loaded cargo through three hatches. The main hatch, 12 feet by 16 feet, was the largest. Hatches were kept small as a safety measure. Covered at sea with wooden boards and heavy tarp, hatches were a weak point for sailing cargo ships. If a hatch covered in heavy weather, seas could quickly fill the hold and sink the ship.

The Balclutha's cargo gear was primitive even for her time. The ship's masts and lower yards supported the rigging used to lift or lower cargo through the hatches. The Balclutha, unlike many sailing ships, did not have a steam hoisting engine or "donkey engine." Hand operated cargo winches were fitted on deck near the hatches. Shore equipment, such as portable donkey engines, was sometimes available, but cargo was often moved entirely by hand.

A SAILING CARGO SHIP WAS LIKE A BIG MOVEABLE WAREHOUSE, BUT EVERYTHING HAD TO BE HAULED IN AND OUT THROUGH SMALL HATCHES.

winches were fitted on deck near the hatches. Portable donkey engines were sometimes available ashore, but cargo was often moved entirely by hand.



Tween deck Panel

Cargo Group

T3- CARGO TEXT PANEL (30" x 30")

Title

T3-1 LOADING CARGO

Lead

T3-2 A sailing cargo ship was like a big moveable warehouse, but everything had to be hauled in and out through small hatches.

Key Label

T3-3 The *Balclutha* carried about 2,600 tons of cargo. This load brought her down to the water line indicated by the "Plimsoll Mark" on her outer plating. Her cargo capacity, expressed in tons of weight, was quite different from her registered tonnage of 1,689. Registered tonnage is a measure of volume rather than weight, expressed in tons of 100 cubic feet.

T3-4 The *Balclutha* loaded cargo through three hatches. The main hatch, 12 feet by 16 feet, was the largest. Hatches were kept small as a safety measure. Covered at sea with wooden boards and heavy tarps, hatches were a weak point for sailing cargo ships. If a hatch cover failed in heavy weather, seas could quickly fill the hold and sink the ship.

T3-5 The *Balclutha's* cargo gear was primitive even for her time. Her masts and lower yards supported the rigging used to lift or lower cargo through the hatches. The *Balclutha*, unlike many sailing ships, did not have a steam hoisting engine or "donkey engine." Hand operated cargo

winches were fitted on deck near the hatches. Portable donkey engines were sometimes available ashore, but cargo was often moved entirely by hand.

Graphics

T3-6 Drawing showing ship loading cargo (develop in-house).

T3-7 Drawing of cargo winch, Jackson catalog

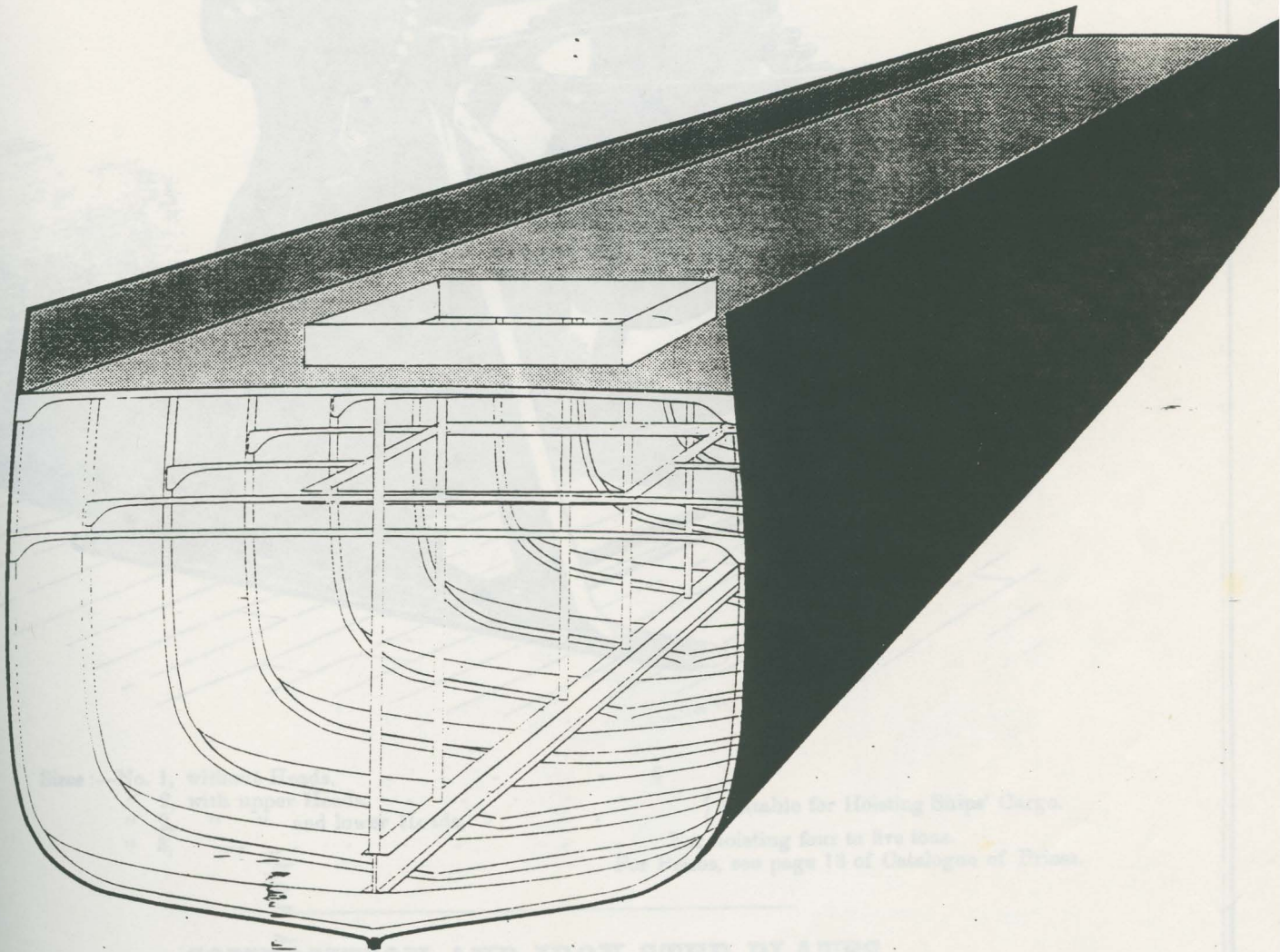
Captions

T3-8 Caption for cargo loading drawing

T3-9 Caption for winch

Portable Cargo Winch, on Iron Frame.

FOR HOISTING OUT CARGO, OR OTHER PURPOSES, AND CAN BE REMOVED FROM PLACE TO PLACE.



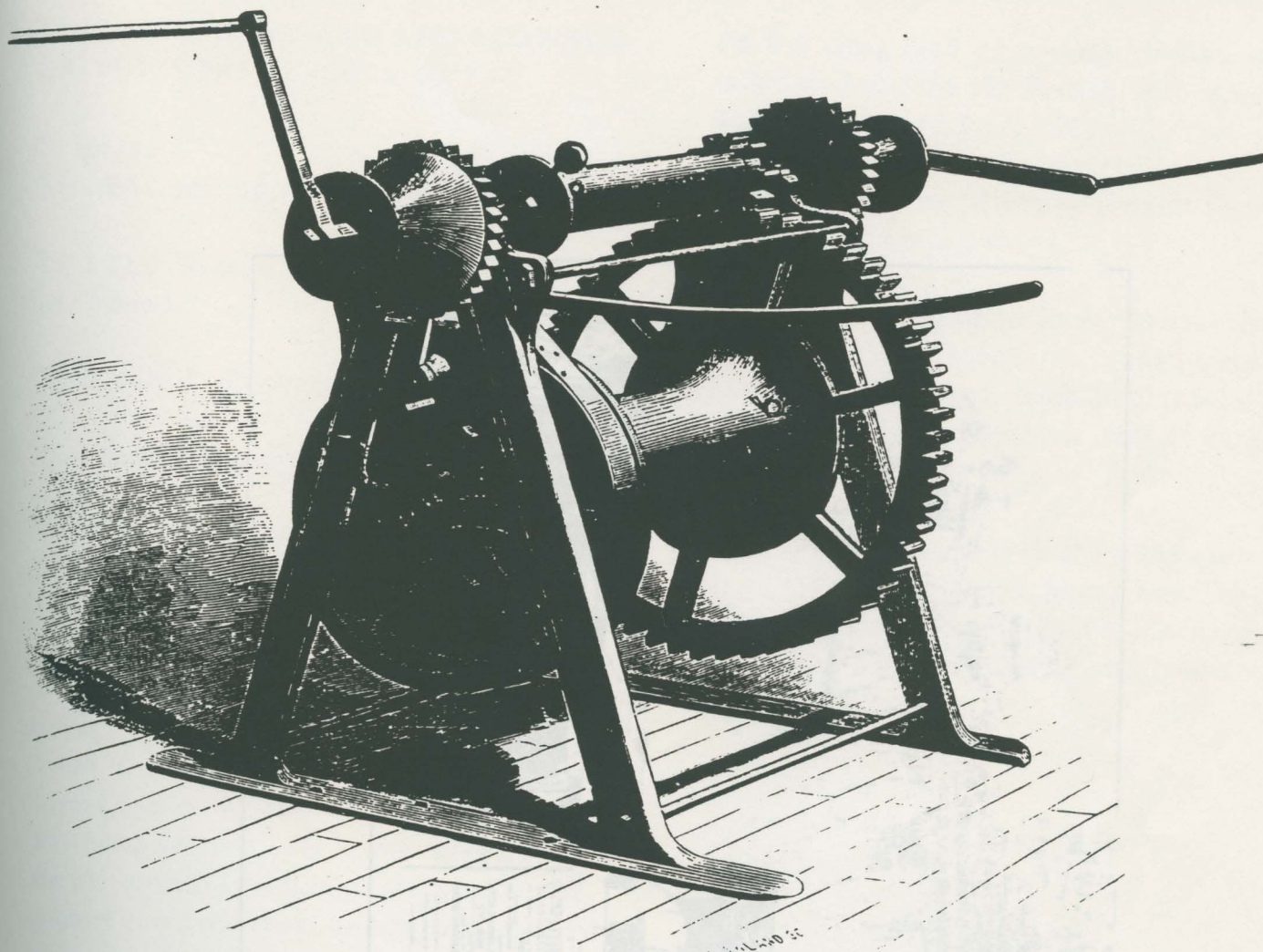
COMPOSITION AND IRON STEEL PLATES.



Glass in great variety.

Portable Cargo Winch, on Iron Frame.

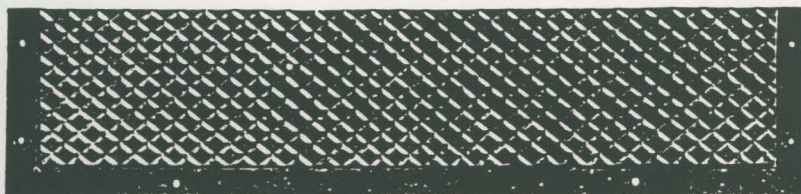
FOR HOISTING OUT CARGO, OR OTHER PURPOSES, AND CAN BE REMOVED FROM PLACE TO PLACE.



Sizes :—No. 1, without Heads, - - - - - \$
 " 2, with upper Heads, - - - - -
 " 2, " " and lower Heads, - - - - -
 " 3, - - - - -

} Suitable for Hoisting Ships' Cargo.
 For hoisting four to five tons.
 For Prices, see page 13 of Catalogue of Prices.

COMPOSITION AND IRON STEP PLATES.



Sizes in great variety.

T4. CARGO HANDLING AND STOWAGE
GRAPHICS PANEL (30" x 40")

Graphics

T4-1 BAL sailing notice, 1897 (K10.27113)

T4-2 The Beacon Hill roads carmen
(A12.84n)

T4-3 Astral discharges

T4-4 Barreled cement (A12.84n)

T4-5 The Beacon Hill discharges
(A12.20,387n)

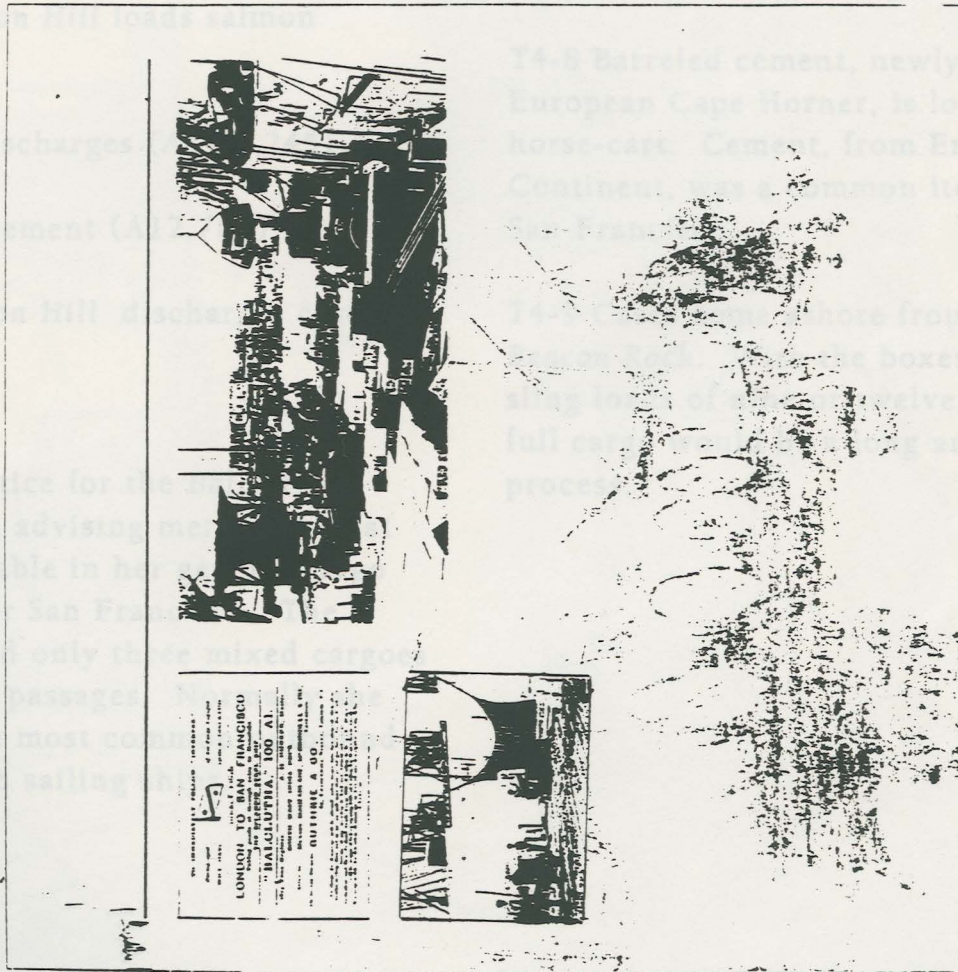
Captions

T4-6 Sailing notice for the
voyage of 1897, advising me
space was available in her
from London for San Francisco
Balclutha carried only three mixed cargo
on her outward passages
loaded coal, the most common
cargo for British sailing ships

T4-7 A sling load of canned Alaskan salmon
is hoisted aboard the British ship Beacon
Rock at Howard Street Wharf in San
Francisco. Across the wharf is a coal
hopper, used for filling coal carts from the
holds of incoming ships.

T4-8 Barreled cement, newly landed from
European Cape Horn, is loaded onto a
horse-cart. Cement from England or the
Continental was a common item of cargo for

T4-9 The Beacon Hill discharges
boxes handled in
sling loads. The process of discharging a
full cargo was a slow and laborious
process.



Twendeck Panel

T4- CARGO HANDLING AND STOWAGE GRAPHICS PANEL (30" x 40")

Graphics

T4-1 BAL sailing notice, 1897 (K10.27115)

T4-2 The Beacon Hill loads salmon
(A12.84n)

T4-3 Astral discharges

T4-4 Barreled cement (A12.84n)

T4-5 The Beacon Hill discharges
(A12.20,387n)

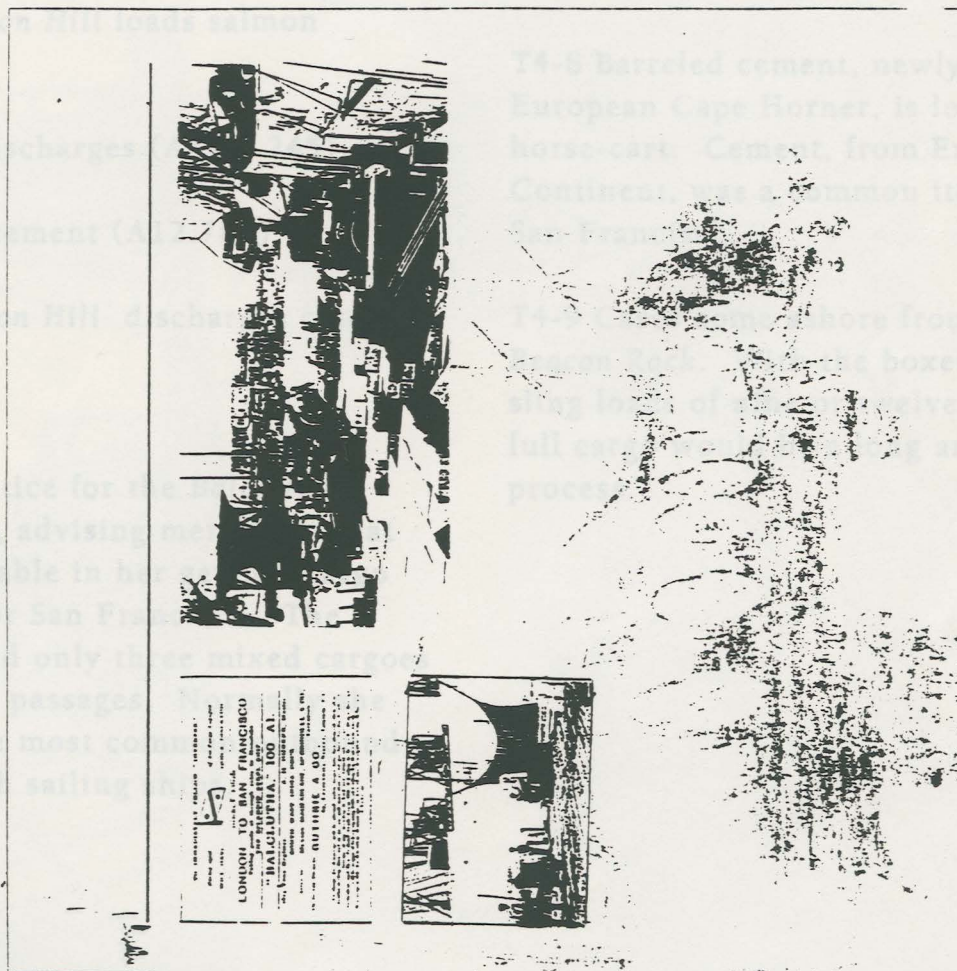
Captions

T4-6 sailing notice for the
voyage of 1897, advising
space was available to be
from London for San Francisco
Kaiulaha carries only mixed cargo
on her outward passages
loaded coal, the most common
cargo for British sailing ships

T4-7 A sling load of canned Alaskan salmon
is hoisted aboard the British ship Beacon
Rock at Howard Street Wharf in San
Francisco. Across the wharf is a coal
hopper, used for filling coal carts from the
holds of incoming ships.

T4-8 Barreled cement, newly landed from a
European Cape Horn, is loaded onto a
horse cart. Cement from England or the
Continental was a common item of cargo for
British ships.

T4-9 More from the ship
beacon hill the boxes handled in
sling load of five discharging a
full cargo of goods and laborious
process





Tweendeck Panel

Cargo Group

T4- CARGO HANDLING AND STOWAGE GRAPHICS PANEL (30" x 40")

Graphics

T4-1 BAL sailing notice, 1897 (K10.27115)

T4-2 The *Beacon Hill* loads salmon
(A12.84n)

T4-3 *Astral* discharges (A12.5,245)

T4-4 Barreled cement (A12.78n)

T4-5 The *Beacon Hill* discharges cases
(A12.20,387n)

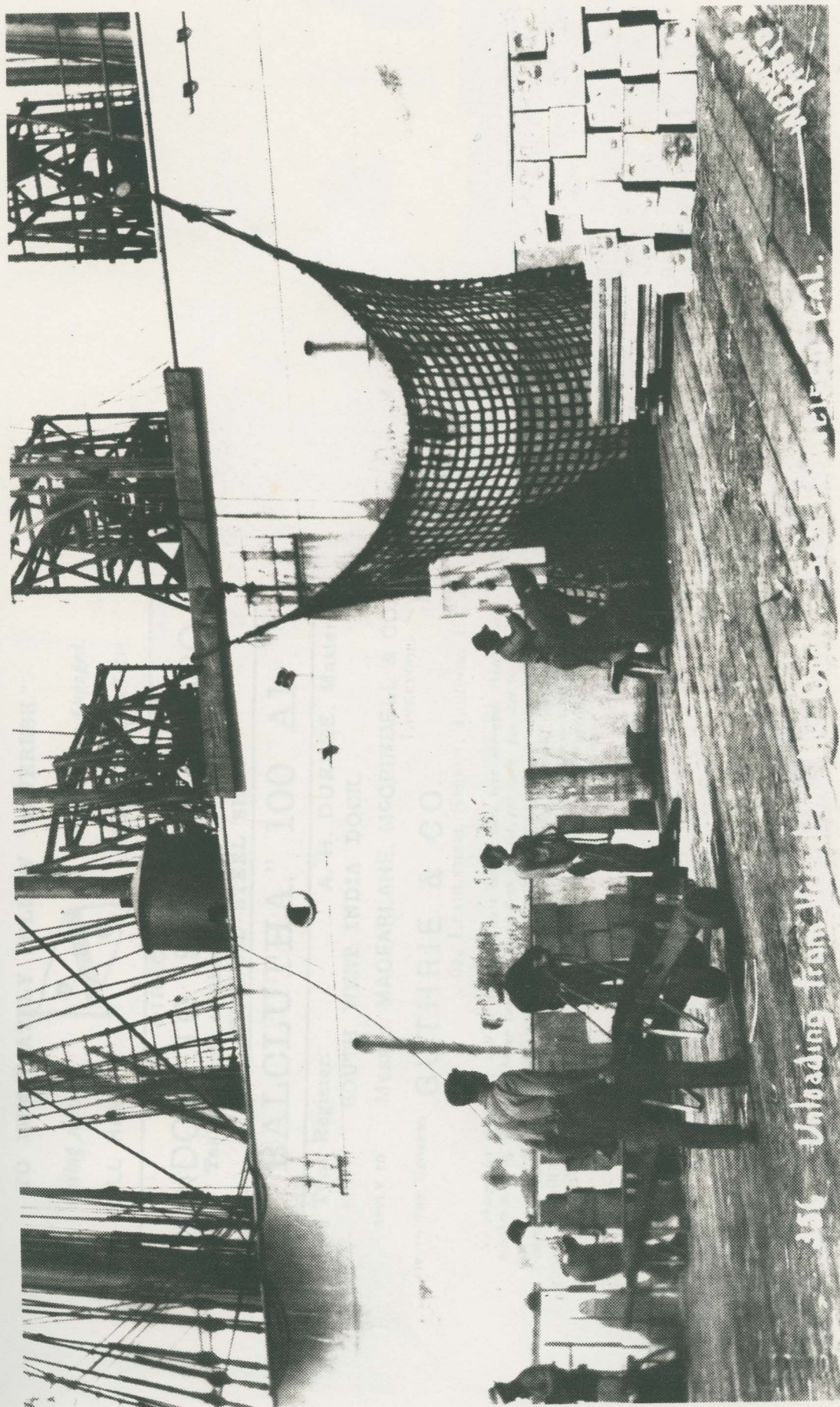
Captions

T4-6 Sailing notice for the *Balclutha*'s voyage of 1897, advising merchants that space was available in her general cargo from London for San Francisco. The *Balclutha* carried only three mixed cargoes on her outward passages. Normally she loaded coal, the most common outbound cargo for British sailing ships.

T4-7 A sling load of canned Alaskan salmon is hoisted aboard the British ship *Beacon Rock* at Howard Street Wharf in San Francisco. Across the wharf is a coal hopper, used for filling coal carts from the holds of incoming ships.

T4-8 Barreled cement, newly landed from a European Cape Horner, is loaded onto a horse-cart. Cement, from England or the Continent, was a common item of cargo for San Francisco.

T4-9 Cases come ashore from the ship *Beacon Rock*. With the boxes handled in sling loads of nine or twelve, discharging a full cargo would be a long and laborious process.



TO IMMEDIATELY FOLLOW "INVERESK."

Having most
WILL HAVE



of her Cargo Engaged.
QUICK DISPATCH.

DIRECT FROM

LONDON TO SAN FRANCISCO.

Taking goods at through rates to Honolulu.

THE SPLENDID STEEL SHIP

"BALCLUTHA," 100 A1.

1614 Tons Register:

A. H. DURKEE, Master.

SOUTH WEST INDIA DOCK.

APPLY TO

MESSRS. MACFARLANE, MCCRINDELL & CO.,
LIVERPOOL.

OR TO THE BROKERS

GUTHRIE & CO.,

62, LEADENHALL STREET, LONDON, E.C.

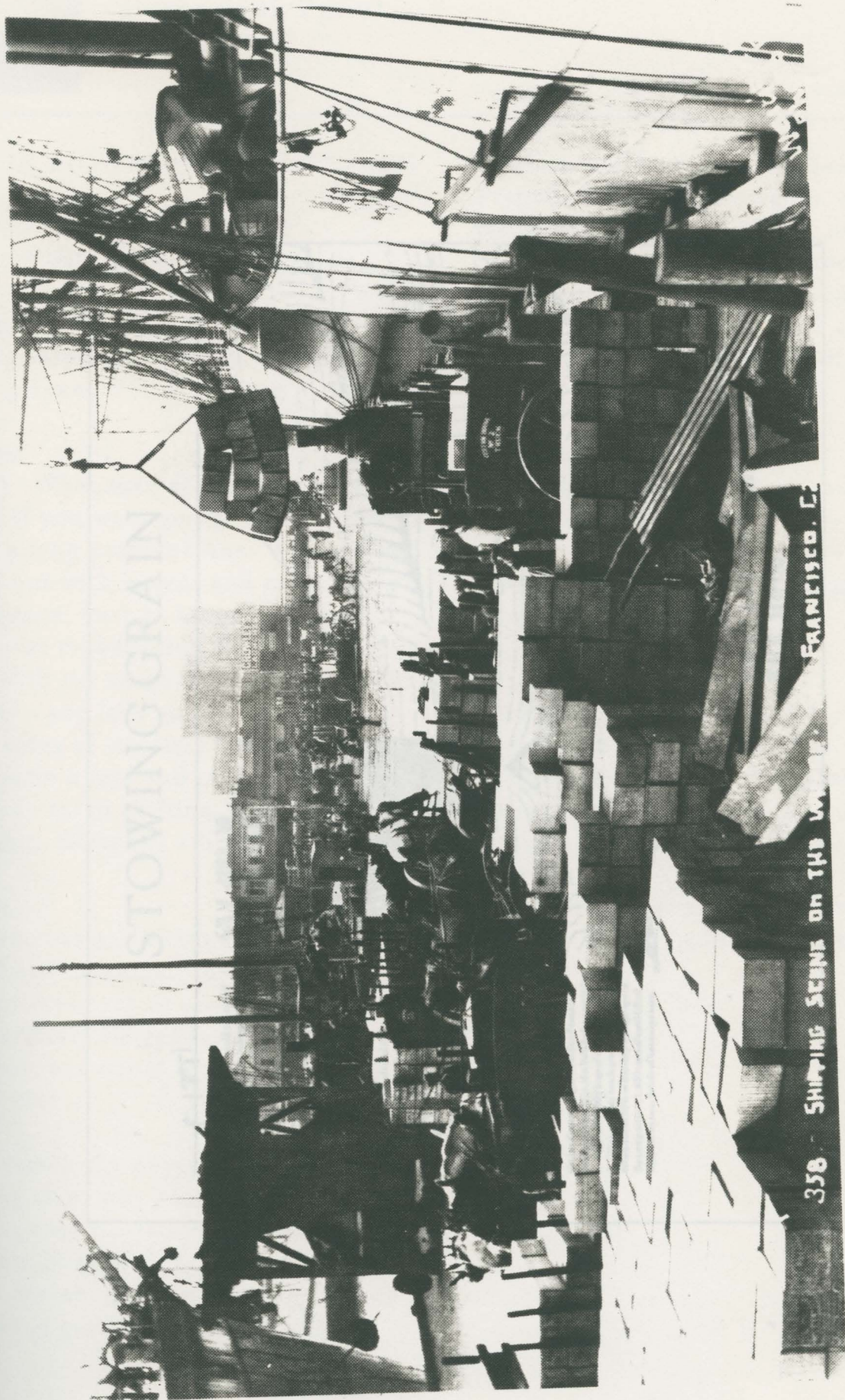
No charge for demurrage will be allowed, unless barges have been alongside three clear weather-working days, and in no case will more than 7s. 6d. per barge per day be allowed.

Average, if any, according to York and Antwerp rules, 1890.

Australian and New Zealand Trade Form Bill of Lading to be used. Mate's Receipt will be required before signing Bills of Lading for Water-borne Goods.

Not responsible for detention, demurrage, or loss of any description arising from rain or lock-out.

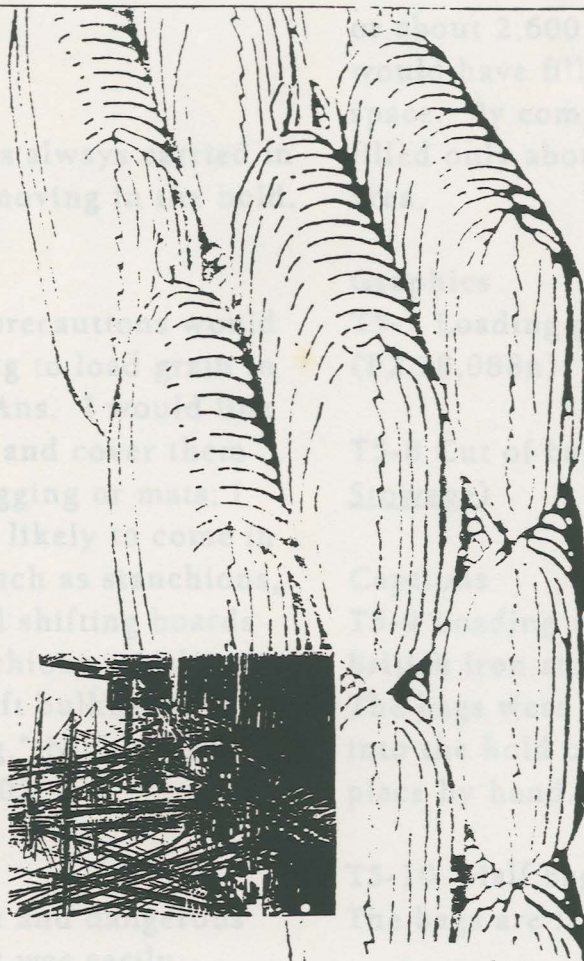




STOWING GRAIN

358 - SHIPPING SCENE ON THE WATER - FRANCISCO, CA

STOWING GRAIN



IN SAILING SHIPS, GRAIN WAS ALWAYS CARRIED IN BAGS, TO PREVENT IT FROM MOVING IN THE HOLD.

"What special precautions would you take if you were going to load grain in bags for a long passage? Ans. I would line the hold out with boards and cover them with old sails, burlap, bagging or mats. I would cover all bare iron likely to come in contact with the cargo, such as stanchions, masts, etc. and lash good shiffling boards on both sides of the stanchions and masts, so as to form a free end of bulkhead, to prevent the cargo shifting." - Nicholls's Seamanship, Olangue, 1905

Grain was a difficult and dangerous cargo for sailing ships. It was easily spoiled by moisture or contamination. Unless carefully stowed, grain might shift in the hold, and could cause a ship to roll over and sink.

To lessen the danger of shifting, grain for sailing ships was packed in 100 pound bags. The bags stowed into a stable mass. Holds were lined with extra planking and fabric to prevent moisture damage and to keep leaking grain from clogging the pumps.

On her four passages from San Francisco with grain cargoes, the Balclutha carried an average of 59,000 bags of wheat or about 2,400 tons. This much grain would have filled about 90% of the ship's cargo space. By comparison, 2,400 tons of coal filled only about two-thirds of her cargo area.



T5- GRAIN STOWAGE PANEL (30" x 40")

Title

T5-1 STOWING GRAIN

T5-2 Lead

In sailing ships, grain was always carried in bags, to prevent it from moving in the hold.

Quotation

T5-3 " Q. What special precautions would you take if you were going to load grain in bags for a long passage? Ans. I would line the hold out with boards and cover them with old sails, burlap, bagging or mats; I would cover all bare iron likely to come in contact with the cargo, such as stanchions, masts, ect. and lash good shifting boards on both sides of the stanchions midships, so as to form a fore and aft bulkhead, to prevent the cargo shifting." Nicholls's Seamanship, Glasgow, 1905

Key Label

T5-4 Grain was a difficult and dangerous cargo for sailing ships. It was easily spoiled by moisture or contamination. Unless carefully stowed, grain might shift in the hold, and could cause a ship to roll over and sink.

T5-5 To lessen the danger of shifting, grain for sailing ships was packed in 100 pound bags. The bags stowed into a stable mass. Holds were lined with extra planking and fabric to prevent moisture damage and to keep leaking grain from clogging the pumps.

T5-6 On her four passages from San Francisco with grain cargoes, the *Balclutha* carried an average of 59,000 bags of wheat or about 2,600 tons. This much grain would have filled about 90% of her cargo space. By comparison, 2,600 tons of coal filled only about two-thirds of the cargo area.

Graphics

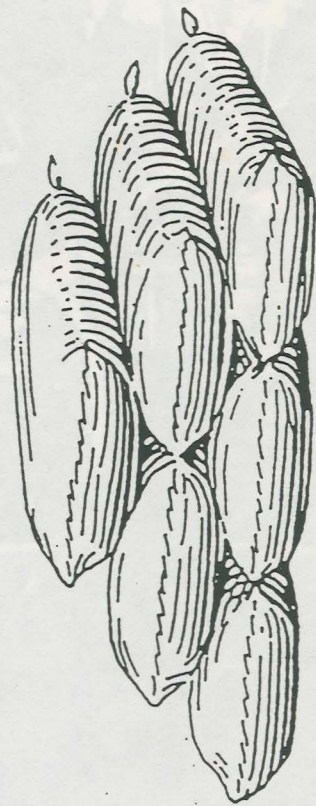
T5-7 Loading grain at Portland.
(F2.28,088n)

T5-8 Cut of bags. (From Modern Ship Stowage)

Captions

T5-9 Loading wheat by gravity chute. A British iron ship loads at Portland, Oregon. The bags were simply slid down a board into the hold or tweendeck, and moved into place by hand.

T5-10 "Half bag" stowage of grain sacks. The bags are lapped like bricks.





them toward the center of the compartment, the work being done



D.D. 41-148-B

Figure 39.—Bag stowage for commodities requiring all possible ventilation.

row by row athwartship. When a ship is close dunnaged or matted at the sides, it is good practice to stow the bags in the wings athwartship, since this leaves only the end of the bag close to the ship's side and, if sweat runs down the side, only the end of the bag is liable to damage.

When bagged cargo is loaded in a vessel which is using only the customary wooden cargo battens for dunnage, it is good practice to stow the bags in the wings on end. This prevents the centers of the

D.D. 41-148-C



Figure 40.—Bag stowage—"half-bag" method.

bags from protruding between the cargo battens and possibly contacting the moist metal of the frames or shell plating.

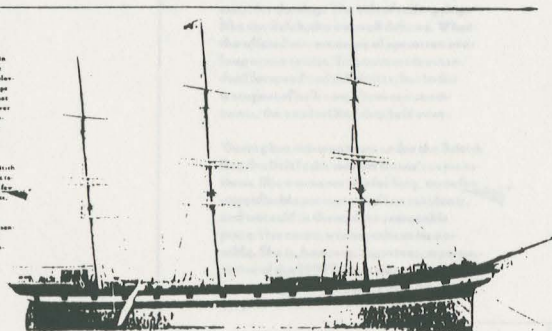
The method of tiering depends largely upon the commodity being carried. If the commodity is one for which all possible ventilation is required, the bags should be stowed one on top of another, with the ends well butted (fig. 39). If thorough ventilation is not of importance, however, and if the bags are soft, better stowage will be achieved by stowing "half bag," as shown in figure 40. Stowage in this case is advantageously done tier by tier. The cubic space occupied by a ton is a little less, and this method may sometimes gain as much as one tier underneath the beams.

13 YEARS A BRITISH CARGO SHIP

*"The Balclutha was built for the general trade."
"Marine Engineer," Jan. 1887*

When the Balclutha was launched in 1866, her owners anticipated some twenty years of modestly profitable employment for the ship. The role of sailing ships like the Balclutha was well defined. What she offered was economy of operation over long ocean routes. Surpassing the steam-driven speed and reliability of the trampers of bulk cargo between continents, the steel sailing ship held sway.

During her thirteen years as the British flag, the Balclutha met her owner's expectations. She was never idle for long, made few unsatisfactory passages, had few accidents, and was sold to her next owner in excellent condition. Her career was not without incident. She is, however, a survivor, representative of the 1000 British iron and steel steamers built during the 19th century.



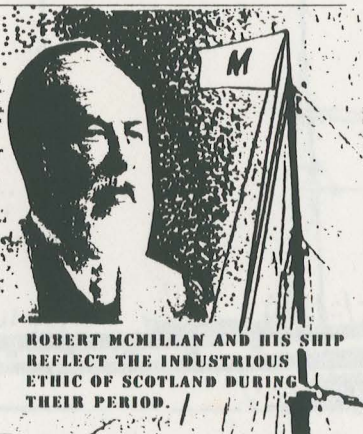
**THE BALCLUTHA IS AN EXAMPLE
OF A BRITISH "CAPE HORNER,"
BUILT FOR STRENGTH AND CARGO
CAPACITY.**

THE BALCLUTHA'S OWNER

"A wide circle of friends among shipowners and shipbuilders centered on him for his business acumen." The London Herald, September 11, 1912

Robert McMillan, the Balclutha's first owner, was prominent in shipbuilding. Between 1860 and his death in 1912, McMillan built his family's shipyard. At the time, McMillan and Son, of Dumbarton, Robert the Balclutha, her three brothers, the Straths, and four cousins, which were not separately from the family business. Each sailing ship was built by the Charles Connolly yard, before McMillan took over his family shipyard.

Robert McMillan was a respected member of the mercantile community. Appointed to the shipyard as a young man, he also worked in the drawing office and the managing room in later years of the business. He was quietly generous to the church and civic charities. McMillan was not deeply involved in the operation of the Balclutha, and may well have been his only one of the first owners.



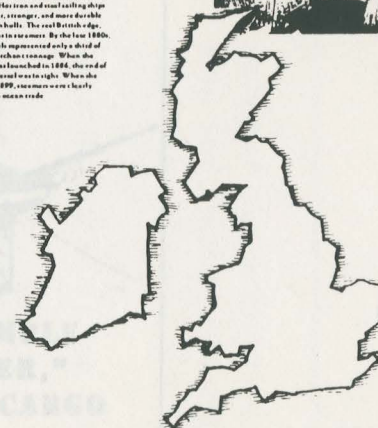
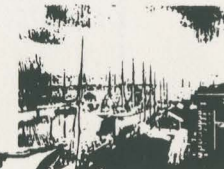
**ROBERT McMILLAN AND HIS SHIP
REFLECT THE INDUSTRIOUS
ETHIC OF SCOTLAND DURING
THEIR PERIOD.**

BRITISH SHIPPING

*"The merchant marine of Great Britain is the most extensive and important in the world."
Special Canadian Report, "Merchant Marine of Foreign Countries," 1900*

During the Balclutha's years under the British flag, Great Britain appeared more than half of the world's tonnage. This reflected both Britain's colonial role in the world economy, and the efficiency of her ships. British shipping stood as the common carrier to the world.

Britain led the world in technology as well as tonnage. Her iron and steel sailing ships were cheaper, stronger, and more durable than wooden hulls. The steel British ships, however, were not steamers. By the late 1880s, sailing vessels represented only a third of Britain's merchant tonnage. When the Balclutha was launched in 1866, she was the sailing vessel in the right. When she was sold in 1899, steamers were clearly dominant in ocean trade.

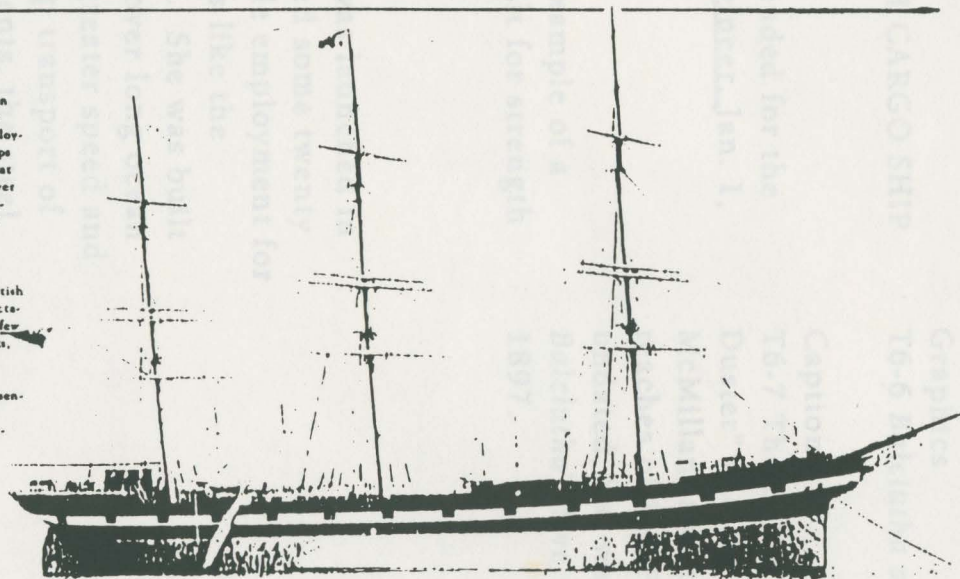


13 YEARS A BRITISH CARGO SHIP

*"The Balclutha is intended for the general trade."
"Marine Engineer," Jan. 1 1887*

When the Balclutha was launched in 1886, her owners anticipated some twenty years of modestly profitable employment for the ship. The role of sailing ships like the Balclutha was well defined. What she offered was economy of operation over long ocean routes. Steamers set the standard for speed and reliability, but in the transport of bulk cargo between continents, the steel sailing ship held sway.

During her thirteen years under the British flag the Balclutha met her owner's expectations. She was never idle for long, made few unprofitable passages, had few accidents, and was sold in the end at a reasonable price. Her career was not otherwise notable. She is, however, a survivor, representative of the 3000 British iron and steel square-riggers built during the 19th century.



**THE BALCLUTHA IS AN EXAMPLE
OF A BRITISH "CAPE HORNER,"
BUILT FOR STRENGTH AND CARGO
CAPACITY.**



Tweendeck Panel

Shipping Group

T6- SHIP HISTORY INTRODUCTORY PANEL (30" x 40")

Title

T6-1 13 YEARS A BRITISH CARGO SHIP

Quotation

T6-2 "The *Balclutha* is intended for the general trade." Marine Engineer, Jan. 1, 1887

Lead

T6-3 The *Balclutha* is an example of a British "Cape Horner," built for strength and cargo capacity.

Key Label

T6-4 When the *Balclutha* was launched in 1886, her owner anticipated some twenty years of modestly profitable employment for the ship. The role of ships like the *Balclutha* was well defined. She was built for economy of operation over long ocean routes. Steamers offered greater speed and reliability, but in the cheap transport of bulk cargo between continents, the steel sailing ship held sway.

T6-5 During her thirteen years under the British flag, the *Balclutha* met her owner's expectations. She was never idle for long, made few unprofitable passages, had few accidents, and was sold in the end at a reasonable price. Her career was not otherwise notable. She is, however, a

survivor, representative of the 3000 British iron and steel square-riggers built during the 19th century.

Graphics

T6-6 *Balclutha* at San Francisco (B6.40,502)

Caption

T6-7 The *Balclutha*, flying the British "Red Duster" and the house flag of Robert McMillan, awaits a grain cargo in the upper reaches of San Francisco Bay. The view is undated, but was taken during one of the *Balclutha*'s five visits, between 1887 and 1897.



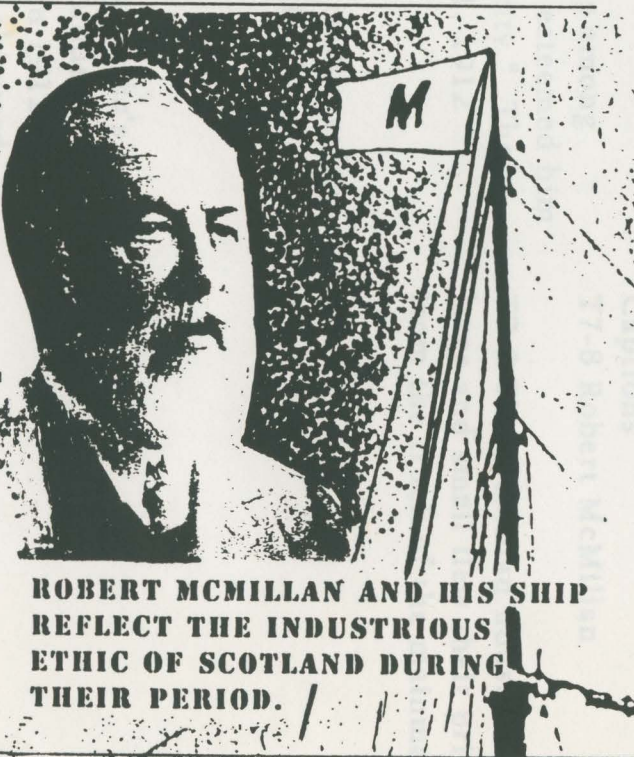
Twendecks Panel#7

THE BALCLUTHA'S OWNER

"A wide circle of friends among shipowners and shipbuilders esteemed him highly for his business integrity." *The Lennox Herald*, September 11, 1912

Robert McMillan, the Balclutha's first owner, was primarily a shipbuilder. Between 1888 and his death in 1912, McMillan headed his family's shipyard, Archibald McMillan and Son, at Dumbarton. Robert McMillan owned a small fleet of vessels: the Balclutha, her short-lived sister the Sirenia, and four steamers, which were run separately from the family business. Both sailing ships were built by the Charles Connell yard, before McMillan took over his family shipyard.

Robert McMillan was a respected member of the mercantile upper-class. Apprenticed to the shipyard as a young man, he also worked in the drawing office and the counting house to learn all phases of the business. He was quietly generous to the church and civic charities. McMillan was not deeply involved in the operation of the Balclutha, and may well have seen her only once after she first went to sea.



**ROBERT MCMILLAN AND HIS SHIP
REFLECT THE INDUSTRIOUS
ETHIC OF SCOTLAND DURING
THEIR PERIOD.**



Tweendeck Panel

ShippingGroup

T7- ROBERT MCMILLAN TEXT PANEL
(30 "x 30")

Title

T7-1 THE BALCLUTHA'S OWNER

Quotation

T7-2 "A wide circle of friends among shipowners and shipbuilders esteemed him highly for his business integrity." The Lennox Herald, September 11, 1912

Lead

T7-3 Robert McMillan and his ship reflect the industrious ethic of Scotland during their period.

Key Label

T7-4 Robert Mcmillan, the *Balclutha's* first owner, was primarily a shipbuilder. Between 1888 and his death in 1912, McMillan headed his family's shipyard, Archibald McMillan and Son, at Dumbarton. Robert McMillan owned a small fleet of vessels -the *Balclutha*, her short-lived sister the *Sirenia*, and four steamers- which were run separately from the family business.

T7-5 Robert McMillan was a respected member of the mercantile upper-class. Apprenticed to the shipyard as a young man, he also worked in the drawing office and the counting house to learn all phases of the business. He was quietly generous to the church and civic charities. McMillan was not deeply involved in the operation of the *Balclutha*, and may well have seen her

only once after she first went to sea.

Graphics

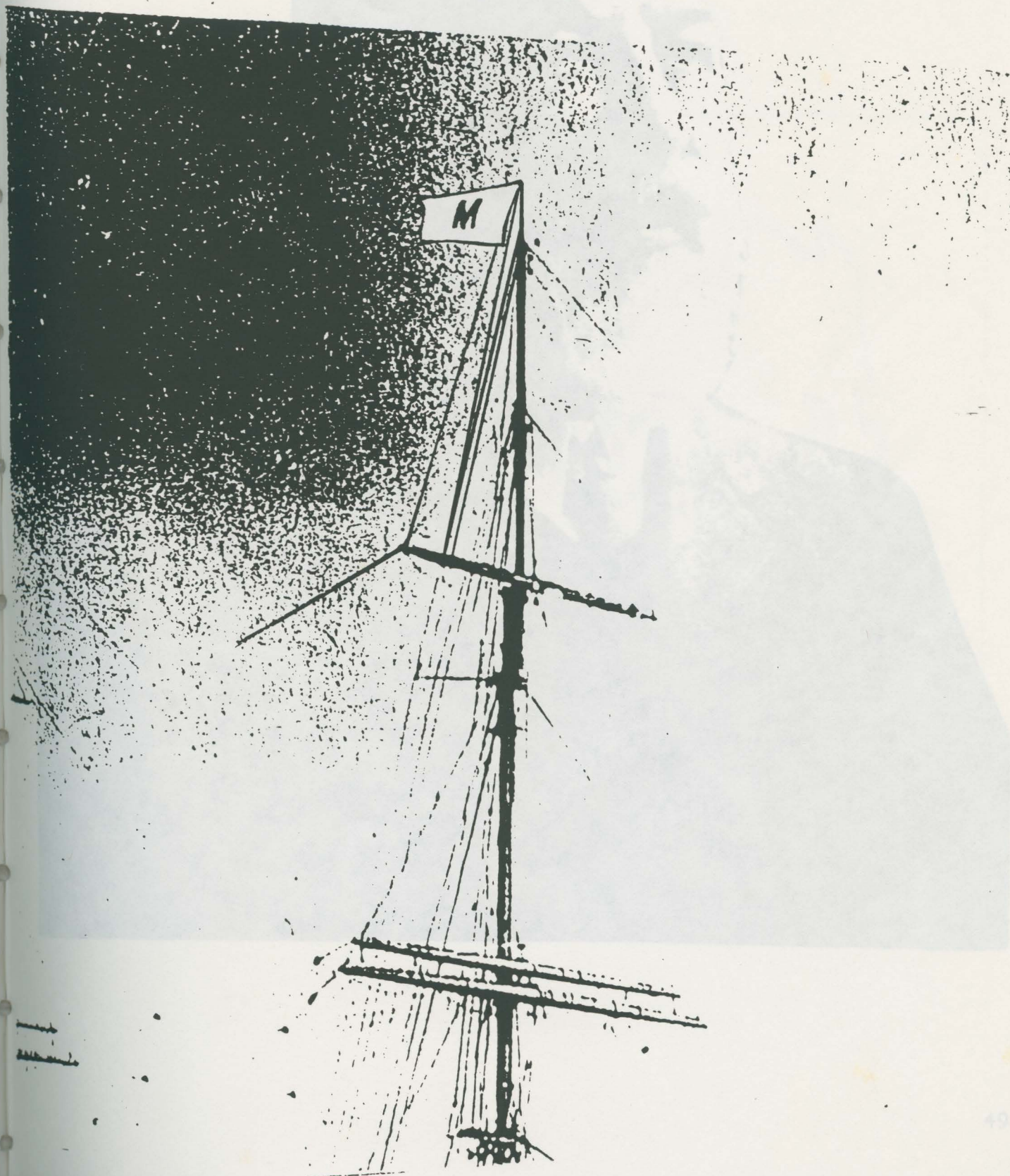
T7-6 Line cut of McMillan

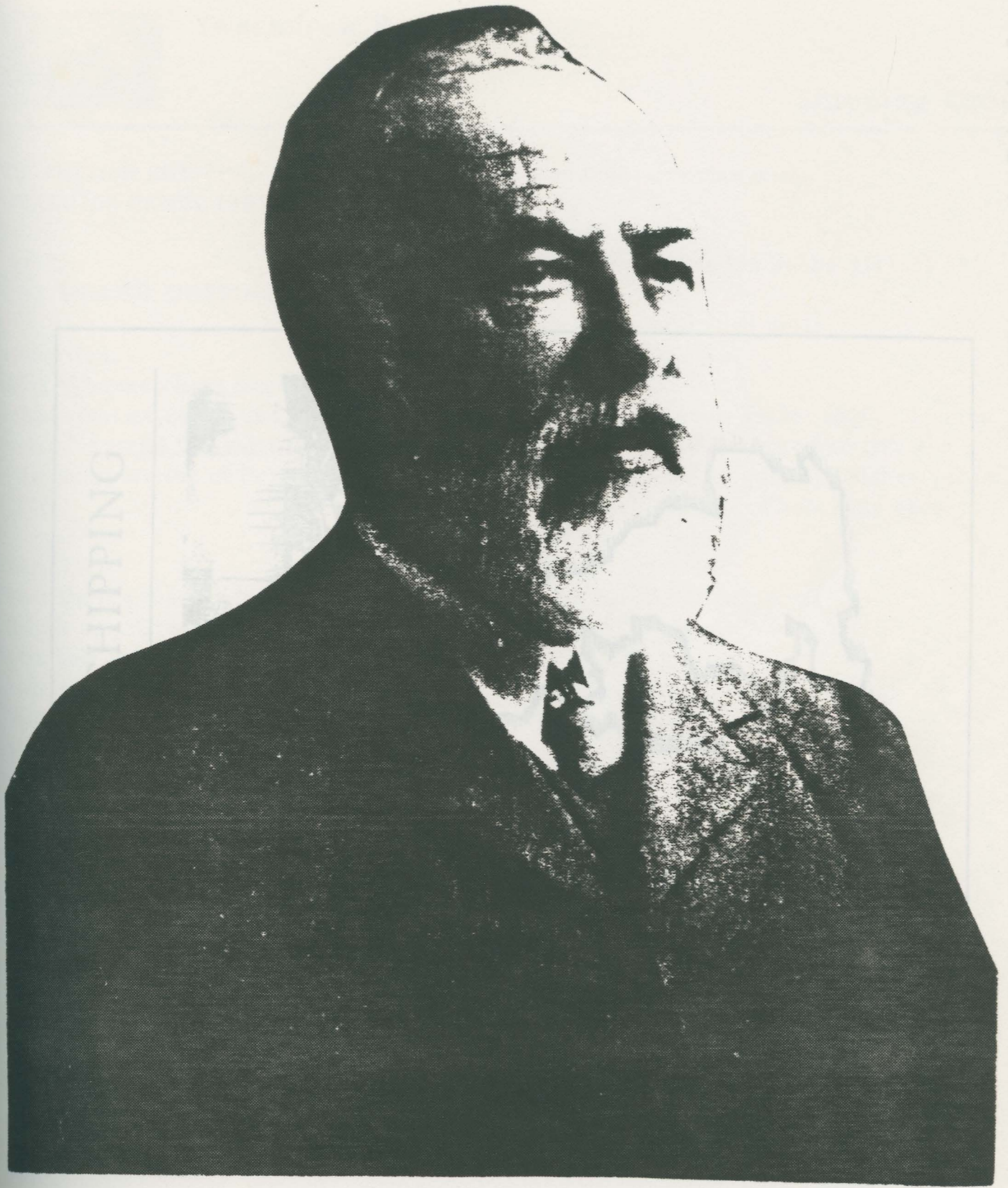
T7-7 The house flag. (Developed in house.)

Captions

T7-8 Robert McMillan

T7-9 The McMillan house flag. Shipowners large and small flew their private signals from the truck of the mainmast.



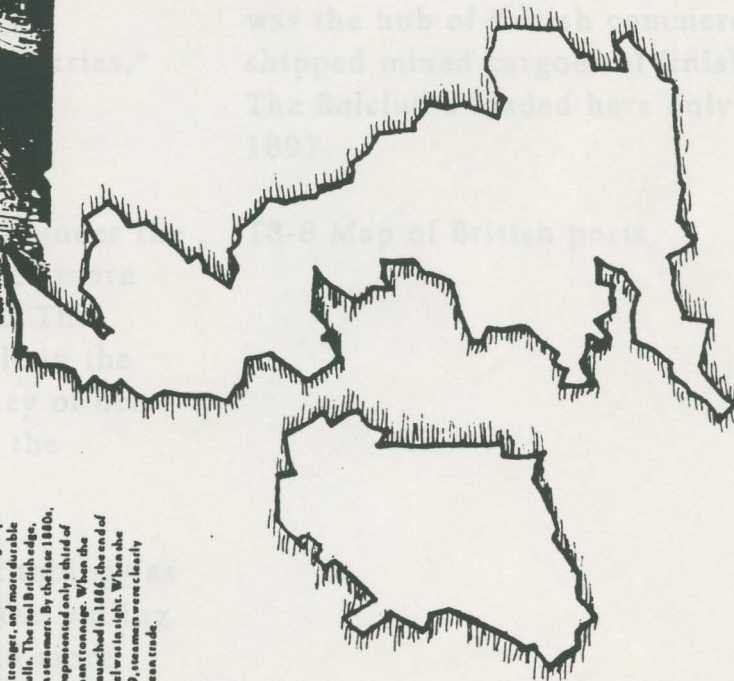
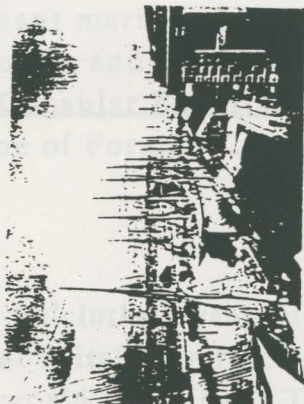


BRITISH SHIPPING

"The merchant marine of Great Britain is the most extensive and important in the world." - Special Consular Reports, "Merchant Marine of Foreign Countries," 1900

During the Balclutha's years under the British flag, Great Britain operated more than half of the world's tonnage. This reflects both Britain's central role in the world economy, and the efficiency of her ships. British shipping acted as the common carrier to the world.

Britain led the world in technology as well as tonnage. Her iron and steel sailing ships were cheaper, stronger, and more durable than wooden hulls. The real British edge, however, was in steamers. By the late 1880s, sailing vessels represented only a third of Britain's merchant tonnage. When the Balclutha was launched in 1886, the end of the sailing vessel was in sight. When she was sold in 1899, steamers were clearly dominant in ocean trade.





Tweendeck Panel

Shipping Group

T8- BRITISH SHIPPING, TEXT AND GRAPHICS PANEL (30" x 40")

Title

T8-1 BRITISH SHIPPING

Quotation

T8-2 "The merchant marine of Great Britain is the most extensive and important in the world." Special Consular Reports-

"Merchant Marine of Foreign Countries," 1900

Key Label

T8-3 During the *Balclutha's* years under the British flag, Great Britain operated more than half of the world's tonnage. This reflects both Britain's central role in the world economy, and the efficiency of her ships. British shipping acted as the common carrier to the world.

T8-4 Britain led the world in technology as well as tonnage. Her iron and steel sailing ships were cheaper, stronger, and more durable than wooden hulls. The real British edge, however, was in steamers. By the late 1880s, sailing vessels represented only a third of Britain's merchant tonnage. When the *Balclutha* was launched in 1886, the end of the sailing vessel was in sight. When she was sold in 1899, steamers were clearly

dominant in ocean trade.

Graphics

T8-5 Photo, London docks (I11.21,332)

T8-6 Map of British ports

Captions

T8-7 The London docks, 1890s. London was the hub of British commerce and shipped mixed cargoes of finished goods. The *Balclutha* loaded here only once, in 1897.

T8-8 Map of British ports.



CHARLES CONNELL & CO., SHIPBUILDERS

"On December 30th, Messrs Charles Connell & Co. launched from their shipbuilding yard at Leven, Whitby, a sailing ship named *Balclutha*, of about 1,000 tons gross, for the season. She has been built to the highest class in Lloyd's Registry. "Times Express," Jan. 1, 1887

The *Balclutha* was the 187th hull launched from the River Clyde yard of Charles Connell & Co. The yard was established in 1861, built both iron and sailing vessels, in iron, steel and composite construction. Among Connell's early ships were several fast iron ships, including the well known *Taming* of 1865.

The *Balclutha* was a Connell's iron and steel sailing ship. The first, the *Brecon*, was built to the same design as the *Balclutha* for Robert McMillan. Eight additional iron and steel hulls, varying in tonnage and dimensions, the last of them being launched in 1899. Connell's last sailing vessel was built in 1894.

The Connell yard operated until 1971, when they branched number 519, as a shipyard. In later years the yard was used for the storage of materials. Charles Connell & Co. continues in operation as a shipowning and management company in Glasgow.



**CHARLES CONNELL & CO., BUILDER OF THE
BALCLUTHA, WAS A RESPECTED YARD, LOCATED IN
THE WORLD CENTER OF IRON AND STEEL
SHIPBUILDING.**

SAILING SHIPS FROM BRITISH SHIPYARDS

Over 1000 iron and steel sailing ships were built in British yards during the 19th century. The highest point of sailing ship tonnage came in 1878 when 43 yards built 181 iron hulls. Almost half of the British yards were located along the River Clyde near Glasgow, Scotland.

The British built the first iron sailing ship in 1818. The problem of fouling, the lack of masting growth on the hull, forced adoption of the new material. In the 1860s, however, new sailing ships overcame this problem. Building of large wooden vessels came to an end in Great Britain by about 1875.

In the early 1880s, the new open beam design allowed production of reliable and inexpensive steel plate, and steel ship building became practical. By 1888, most new hulls were steel, and few iron vessels were built. By 1890, British building of steel sailing ships came to an end, with iron hulls ceasing in 1905 as iron was supplanted by virtually all displacement tonnage.



**THE BRITISH DEVELOPED IRON
AND STEEL SAILING SHIPS, AND
LED THE WORLD IN THEIR
CONSTRUCTION.**

CHARLES CONNELL & CO., SHIPBUILDERS

"On December 9th, Messrs. Charles Connell & Co. launched from their shipbuilding yard at Scotstoun, Whiteinch, a sailing ship named Balclutha, of about 1,600 tons gross, for passengers.... She has been built to the highest class in Lloyd's Registry...." *"Marine Engineer," Jan. 1, 1887*

The Balclutha was the 147th hull launched from the River Clyde yard of Charles Connell & Co. The yard, established in 1861, built both steam and sailing vessels, in iron, steel and composite construction. Among Connell's early ships were several fast tea clippers, including the well-known Taitana of 1865.

The Balclutha was Connell's second steel sailing ship. The first, the Steonta, was built to the same design as the Balclutha for Robert McMillan. Eight additional steamers were built, very close in tonnage and dimensions, the last of these being launched in 1889. Connell's last sailing vessel was built in 1894.

The Connell yard operated until 1972, when they launched number 519, a cargo motorship. In later years the yard was noted for its fast cargo steamers. Charles Connell & Co. continues in operation as a shipowning and management company in Glasgow.



**CHARLES CONNELL & CO., BUILDER OF THE
BALCLUTHA, WAS A RESPECTED YARD, LOCATED IN
THE WORLD CENTER OF IRON AND STEEL
SHIPBUILDING.**



Tweendeck Panel

Builders Group

T9- CONNELL PANEL (30" x 40")

Title

T9-1 CHARLES CONNELL & CO.,
SHIPBUILDERS

Quotation

T9-2 "On December 9th, Messrs. Charles Connell & Co. launched from their shipbuilding yard at Scotstoun, Whiteinch, a sailing ship named *Balclutha*, of about 1,600 tons gross, for local owners.... She has been built to the highest class in Lloyd's Registry..." Marine Engineer, Jan. 1, 1887

Key Label

T9-3 The *Balclutha* was the 147th hull launched from the River Clyde yard of Charles Connell & Co. The yard, established in 1861, built both steam and sailing vessels, in iron, steel and composite construction. Among Connell's early ships were several fast tea clippers, including the well-known *Taitting* of 1865.

T9-4 The *Balclutha* was Connell's second steel sailing ship. The first, the *Sirenia*, was built to the same design as the *Balclutha* for Robert McMillan. Eight

additional sisters were built, very close in tonnage and dimensions, the last of these being launched in 1889. Connell's last sailing vessel was built in 1894.

T9-6 The Connell yard operated until 1972, when they launched number 519, a cargo motorship. In later years the yard was noted for its fast cargo steamers. Charles Connell & Co. continues in operation as a shipowning and management company in Glasgow.

Graphics

T9-7 Connell Letterhead

T9-8 Map showing location of yard

T9-9 Photo, *Helicon* at S.F. (A1.2,753)

Captions

T9-10 Map

T9-11 The Connell ship *Helicon*, of 1887, alongside the seawall under Telegraph Hill. With her painted ports, she looks quite similar to the *Balclutha*.

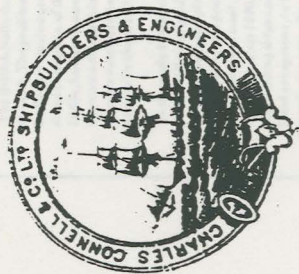


only

REF.....

Telephone Nos. SCOTSTOUN 2225
(3 LINES)

TELEGRAMS. "CONNELL WHITEINCH."



SCOTSTOUN SHIP BUILDING YARD
SCOTSTOUN,



THE BRITISH DEVELOPMENT
AND STEEL SAILING SHIPS, AND
LED THE WORLD IN THEIR
CONSTRUCTION.

WITH THE COMPLIANCE OF

CHARLES CONNELL & CO. LTD.

T10- BRITISH SHIPBUILDING TEXT PANEL
(30" x 30")

Title
T10-1 SAILING SHIPS FROM BRITISH
YARDS

Lead

T10-3 The British developed iron and steel sailing ships, and built them in their construction.

Key Label

T10-4 Some 3000 iron and steel square-riggers were built in British yards during the 19th century. The high pointed sailing ship launchers came in 1876 when 62 yards built 182 iron hulls. Almost half of the British yards were located along the River Clyde near Glasgow, Scotland.

T10-5 The British built the first iron sailing ship in 1838. The buildup of marine growth on the hull, allowed adoption of the new material. In the 1860s, however, new anti-fouling paints overcame this problem. Building of large wooden vessels came to an end in Great Britain by about 1875.

T10-6 In the early 1880s, the new open hearth process allowed production of reliable and inexpensive steel plate, and steel shipbuilding became practical. By 1888, most new hulls were steel, and few iron vessels were built after 1890. British building of steel sailing ships came to an end, with isolated exceptions, in 1904, as steam triumphed in virtually all deepwater trade.

Graphics

T10-7 Map showing major yards and shipbuilding centers during 1880s.
(Information from Brower)

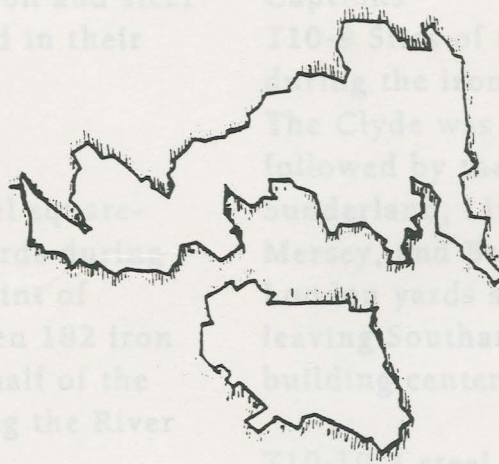
T10-8 Cut of vessel and hydraulic riveter.
(From Modern Shipbuilding)

SAILING SHIPS FROM BRITISH SHIPYARDS

Some 3000 iron and steel square-riggers were built in British yards during the 19th century. The high pointed sailing ship launchers came in 1876 when 62 yards built 182 iron hulls. Almost half of the British yards were located along the River Clyde near Glasgow, Scotland.

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**THE BRITISH DEVELOPED IRON
AND STEEL SAILING SHIPS, AND
LED THE WORLD IN THEIR
CONSTRUCTION.**



Tweendeck Panel

Builder Group

T10- BRITISH SHIPBUILDING TEXT PANEL (30" x 30")

Title

T10-1 SAILING SHIPS FROM BRITISH
YARDS

Lead

T10-3 The British developed iron and steel sailing ships, and led the world in their construction.

Key Label

T10-4 Some 3000 iron and steel square-riggers were built in British yards during the 19th century. The high point of construction came in 1876 when 182 iron hulls were launched. Almost half of the British yards were located along the River Clyde near Glasgow, Scotland.

T10-5 The British built the first iron sailing ship in 1838. The problem of fouling, the buildup of marine growth on the hull, slowed adoption of the new material. In the 1860s, however, new anti-fouling paints overcame this problem. Building of large wooden vessels came to an end in Great Britain by about 1875.

T10-6 In the early 1880s, the new open hearth process allowed production of practical steel plate. By 1888, most new hulls were steel, and few iron vessels were built after 1890. British building of steel sailing ships came to an end, with isolated exceptions, in 1904, as steam triumphed in virtually all deepwater trade.

Graphics

T10-7 Map showing major yards and shipbuilding centers during 1880s.
(Information from Brouwer)

T10-8 Cut of vessel and hydraulic riveter.
(From Modern Shipbuilding)

Captions

T10-9 Sites of the major British shipyards during the iron and steel square-rigger era. The Clyde was the most important region, followed by the North of England around Sunderland, Liverpool and the River Mersey, and Belfast in Northern Ireland. London yards specialized in warships, leaving Southampton the leading merchant building center in the South of England.

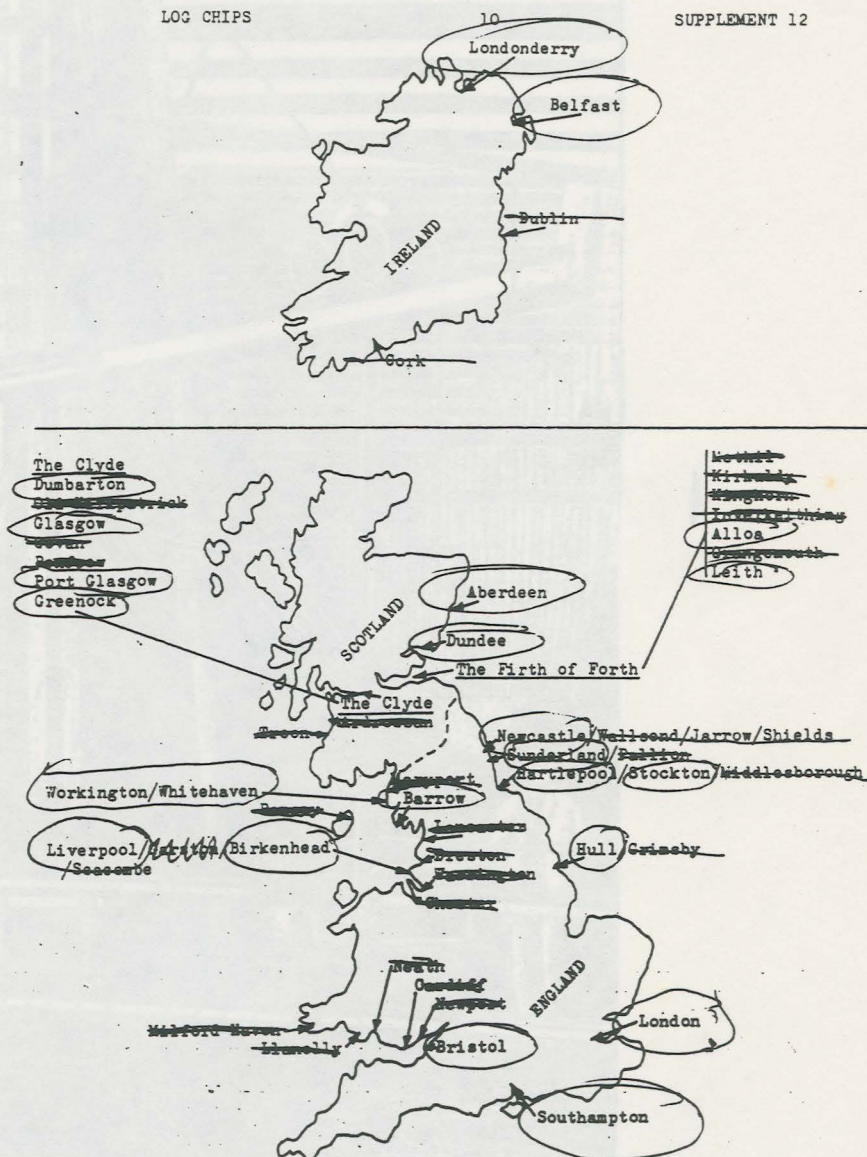
T10-10 A steel ship in frame in a Scottish shipyard. The machine in the foreground is a hydraulic riveter, used after about 1880 to assemble elements of the frames and beams before they went into the ship. Hand-held riveting tools were not in use until the second decade of this century.

same number of men the work is accomplished in something like one-third of the time. The *modus operandi* in overtaking

FIG. 22.

LOG CHIPS

SUPPLEMENT 12

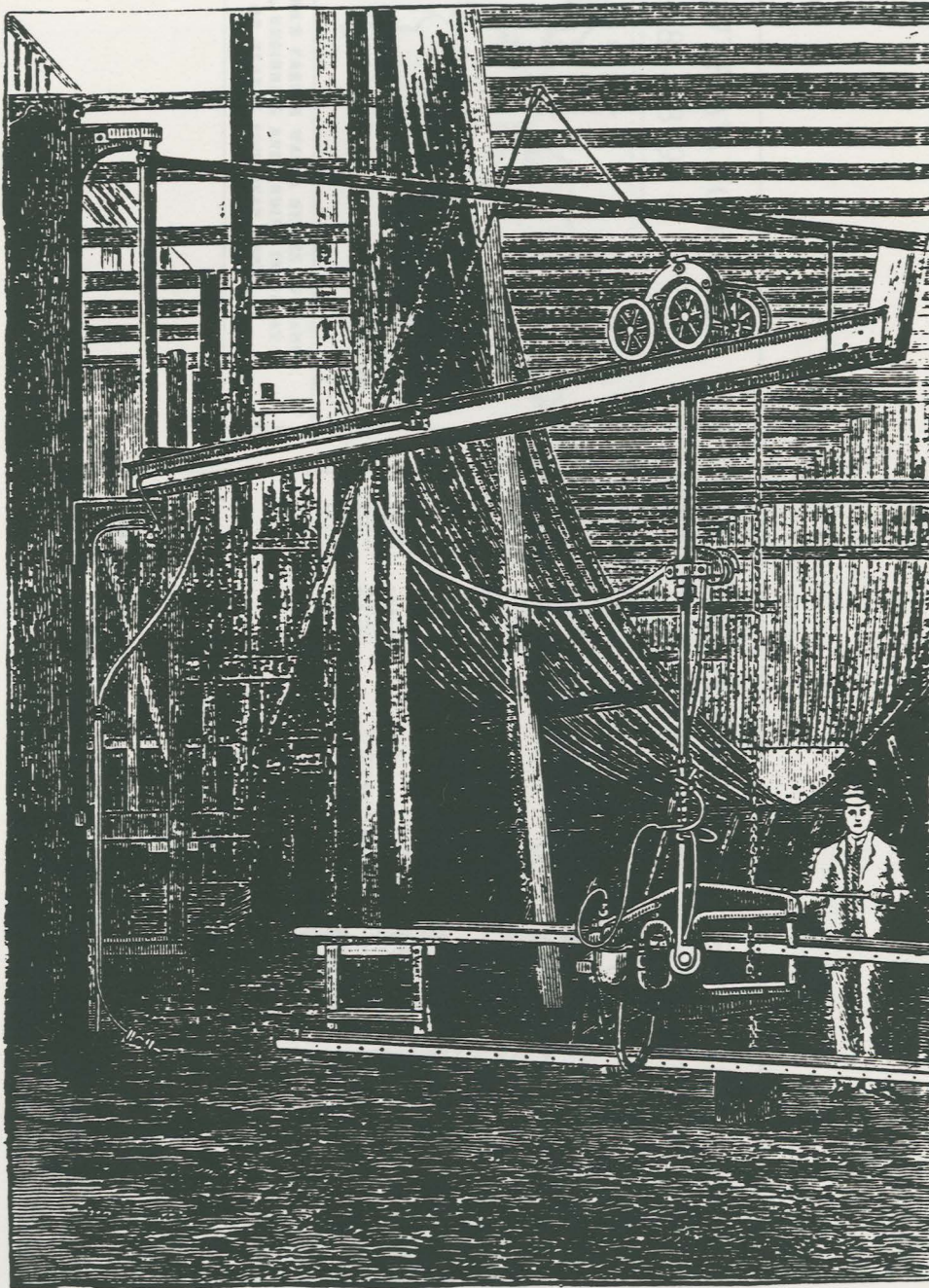


TWIDELL PORTABLE FRAMES AND BEAM RIVETER

this feature of the work may be briefly described. For the riveting of the frames, in almost every case, two cranes of any convenient construction are fixed at the head of the berth in

same number of men the work is accomplished in something like one-third of the time. The *modus operandi* in overtaking

FIG. 22.



TWEDELLE PORTABLE FRAME AND BEAM RIVETER.

this feature of the work may be briefly described. For the riveting of the frames, in almost every case, two cranes of any convenient construction are fixed at the head of the berth in

THE BALCLUTHA'S VOYAGES, 1887-1899

The *Balclutha* made eleven voyages during her thirteen years under the British flag. A voyage included the dates when from a British or Continental port, any number of passages between two or more ports, and finally return to a British or Continental port. Crews were hired for the full voyage and were only paid at the end of the voyage.

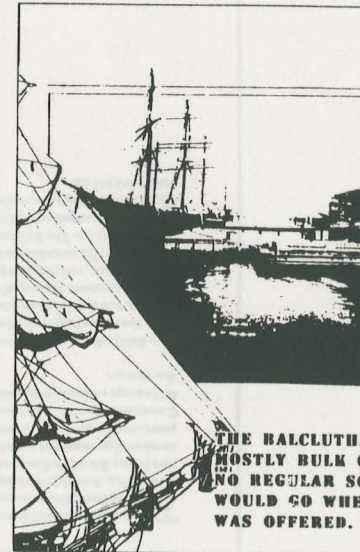
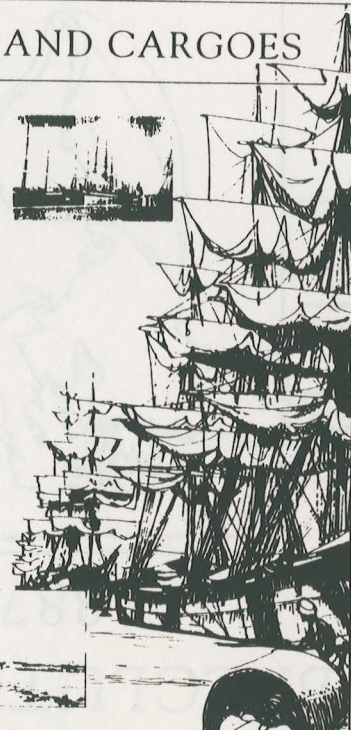
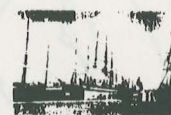
The *Balclutha*'s voyages were generally quite short, the longest lasting less than 10 months, and the most averaging about a year. This is because many of the large square riggers, which spent years shuttling between Pacific ports before loading a homeward cargo. The *Balclutha* was efficiently managed, and retired from the charter trade before any other because she was only hard to find.



BALCLUTHA'S CAREER WAS A SERIES OF CARGO VOYAGES, BEGINNING AND ENDING IN GREAT BRITAIN OR NEARBY EUROPEAN PORTS.

PORTS AND CARGOES

Voyage One, 1886:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Two, 1887:
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Three, 1888:
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Four, 1889:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Five, 1890:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Six, 1891:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Seven, 1892:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Eight, 1893:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Nine, 1894:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Ten, 1895:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Eleven, 1896:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Twelve, 1897:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Thirteen, 1898:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England
Voyage Fourteen, 1899:
Canton, China (Call)
San Francisco (Wharf)
Guam, Island
Panama, England



"With their cargoes of wool, cotton and hides from the colonies, grain and stowed salmon from the West Coast of North America, goods from the Chinese islands, cotton from China, just from India, such and rice from Burma: homeward sailed these brave ships." Frank Ward, *Ellen Emerson in a Steamship*, 1891.

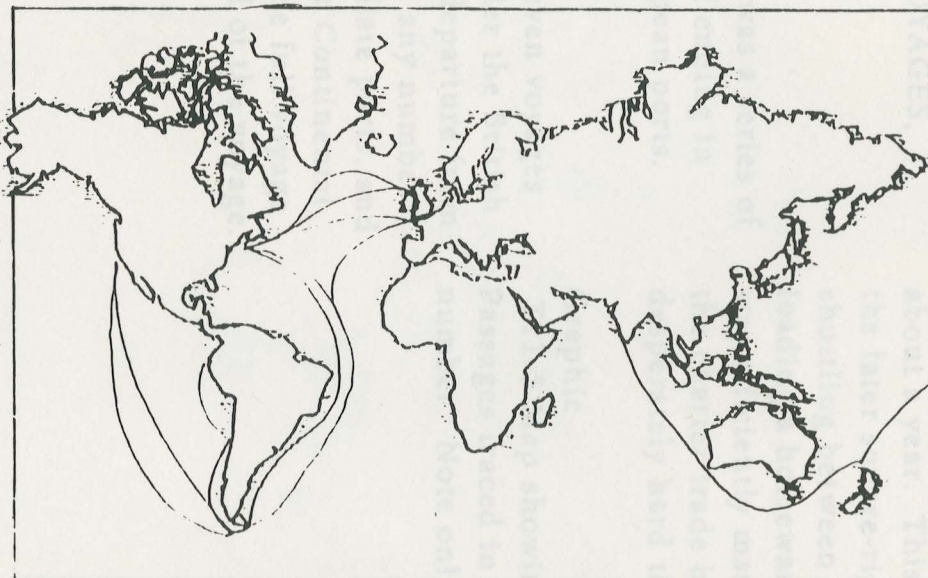
The *Balclutha* was a despatch vessel. This means only that she was available for "despatch" or hire and kept no fixed schedule. In theory, she could be hired to carry anything from any port to any other. In practice, sailing ships of her era were limited to the transport of low-value bulk commodities across great distances. Steamers had captured the shorter trade routes and created the higher-valued goods.

THE BALCLUTHA CARRIED MOSTLY BULK CARGOS. SHE HAD NO REGULAR SCHEDULE, BUT WOULD GO WHEREVER A CARGO WAS OFFERED.

THE BALCLUTHA'S VOYAGES, 1887-1899

The Balclutha made eleven voyages during her thirteen years under the British flag. A voyage included the departure from a British or Continental port, any number of passages between intermediate ports, and finally a return to a British or Continental port. Crews were hired for the full voyage and were only paid at the end of the voyage.

The Balclutha's voyages were generally quite short, the longest lasting less than 18 months, and the rest averaging about a year. This is in contrast to many of the later square-riggers, which spent years shuttling between Pacific ports before loading a homeward cargo. The Balclutha was efficiently managed, and retired from the charter trade before cargo owners became desperately hard to find.



BALCLUTHA'S CAREER WAS A SERIES OF CARGO VOYAGES, BEGINNING AND ENDING IN GREAT BRITAIN OR NEARBY EUROPEAN PORTS.



Tweendeck Panel

Voyages Group

T11- BALCLUTHA'S VOYAGES (30" x 40")

Title

T11-1 THE BALCLUTHA'S VOYAGES,
1887-1899

Lead

T11-2 The *Balclutha*'s career was a series of cargo voyages, beginning and ending in Great Britain or nearby European ports.

Key Label

T11-3 The *Balclutha* made eleven voyages during her thirteen years under the British flag. A voyage included the departure from a British or Continental port, any number of passages between intermediate ports, and finally a return to a British or Continental port. Crews were hired for the full voyage and were only paid at the end of the voyage.

T11-4 The *Balclutha*'s voyages were generally quite short, the longest lasting less than 18 months, and the rest averaging about a year. This is in contrast to many of the later square-riggers, which spent years shuttling between Pacific ports before loading a homeward cargo. The *Balclutha* was efficiently managed, and retired from the charter trade before cargoes became desperately hard to find.

Graphic

T11-5 Map showing *Balclutha*'s voyages. Passages traced in and identified by voyage number. Note only British voyages.



PORTS AND CARGOES

Voyage One, 1886:
Cardiff, Wales (Coal).
San Francisco (Wheat).
Queenstown, Ireland.
Plymouth, England.

Voyage Two, 1888:
Swansea, Wales (Coal).
San Francisco (Wheat).
Queenstown, Ireland.
Plymouth, England.

Voyage Three, 1889:
Antwerp, Belgium.
(General Cargo) - San
Francisco (Wheat).
Falmouth, England.
Sunderland, England.

Voyage Four, 1890:
Cardiff, Wales (Coal).
Cape Town, South
Africa (Ballast).
Napier, New Zealand.
(Wool and Tallow).
London, England.

Voyage Five, 1891:
London, England.
(General Cargo) - New
York (Cane Oil).
Bangor, Burma.
(Jute). Falmouth,
England. Amsterdam,
Holland (Ballast).
Barry, Wales.

Voyage Six, 1892:
Barry, Wales (Coal).
Callao, Peru (Ballast).
Lobos de Terra, Peru
(Onions). Antwerp,
Belgium (Ballast).
Barry, Wales.

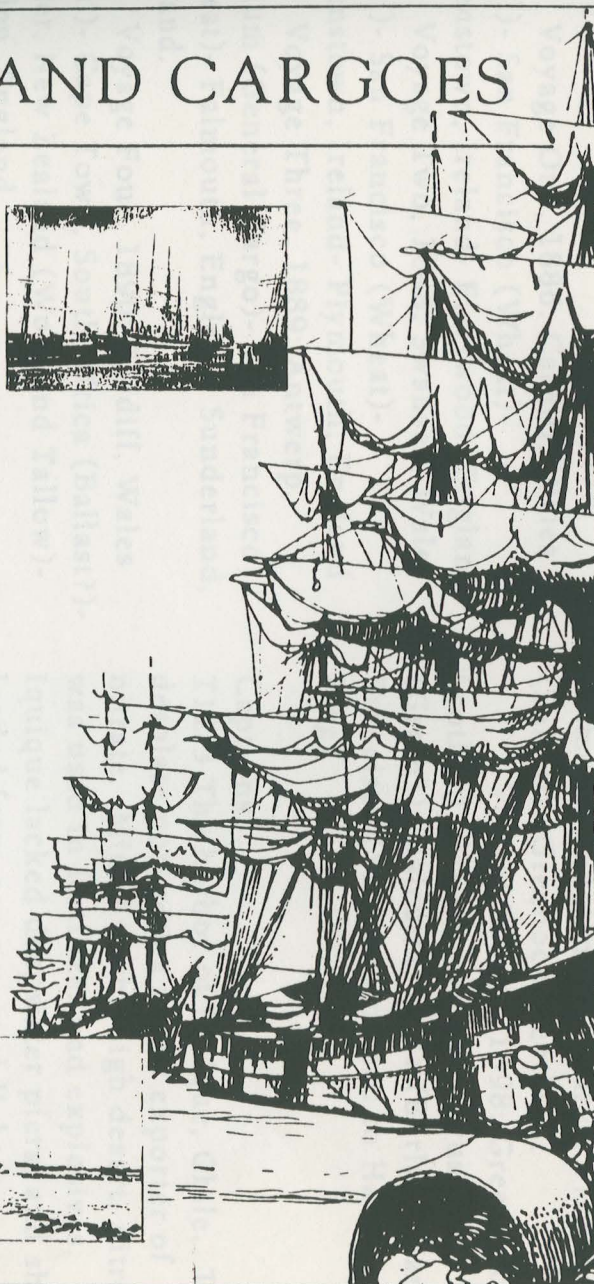
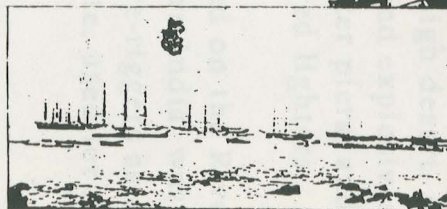
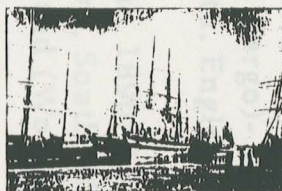
Voyage Seven, 1892:
Barry, Wales (Coal).
Callao, Peru (Ballast).
Iquique, Chile.
(Nitrates). Rotterdam,
Holland (Ballast).
Barry, Wales.

Voyage Eight, 1894:
Barry, Wales (Coal).
Iquique, Chile.
(Nitrates). Falmouth,
England. Antwerp,
Belgium.

Voyage Nine, 1896:
Swansea, Wales (Coal).
San Francisco (Canned
Onions, Beans, and
Barley). London,
England.

Voyage Ten, 1897:
London, England.
(General Cargo) - San
Francisco (Wheat).
Falmouth, England. La
Havre, France.
(Ballast). Garmouth,
Scotland.

Voyage Eleven, 1898:
Garmouth, Scotland (?).
Montevideo, Uruguay.
(Grain). Calcutta,
India (Barley). San
Francisco (Gold and
passed to Hawaiian flag).





Tweendeck Panel

Voyages Group

T12- VOYAGES PANEL (30" x 40")

Title

T12-1 PORTS AND CARGOES

Key Label

T12-2

Voyage One, 1886: Cardiff, Wales
(Coal)- San Francisco (Wheat)-

Queenstown, Ireland- Fleetwood, England

Voyage Two, 1888: Swansea, Wales
(Coal)- San Francisco (Wheat)-

Queenstown, Ireland- Plymouth, England

Voyage Three, 1889: Antwerp,
Belgium (General Cargo)- San Francisco
(Wheat)- Falmouth, England- Sunderland,
England.

Voyage Four, 1890: Cardiff, Wales
(Coal)- Cape Town, South Africa (Ballast?)-
Napier, New Zealand (Wool and Tallow)-
London, England.

Voyage Five, 1891: London, England
(General Cargo)- New York (Case Oil)-
Rangoon, Burma (Jute?)- Falmouth,
England- Amsterdam, Holland (Ballast)-
Barry, Wales.

Voyage Six, 1892: Barry, Wales
(Coal)- Callao, Peru (Ballast)- Lobos de
Terra, Peru (Guano)- Antwerp, Belgium
(Ballast)- Barry, Wales.

Voyage Seven, 1893: Barry, Wales
(Coal)- Callao, Peru (Ballast)- Iquique,
Chile (Nitrate)- Rotterdam, Holland
(Ballast)- Barry, Wales.

Voyage Eight, 1894: Barry, Wales
(Coal)- Iquique, Chile (Nitrate)- Falmouth,

England- Antwerp, Belgium.

Voyage Nine, 1896: Swansea, Wales
(Coal)- San Francisco (Canned Goods,
Beans, and Barley)- London, England.

Voyage Ten, 1897: London, England
(General Cargo)- San Francisco (Wheat)-
Falmouth, England- La Harve, France
(Ballast)- Greenock, Scotland.

Voyage Eleven, 1898: Greenock,
Scotland (?)- Montevideo, Uruguay
(Grain?)- Calcutta, India (Burlap)- San
Francisco (Sold and passed to Hawaiian
Flag)

Captions

T12-3 The harbor of Iquique, Chile. This
desolate port was a major exporter of
nitrate. Mined in the high desert, nitrate
was used in fertilizer and explosives.
Iquique lacked deepwater piers, and ships
loaded from oar-powered lighters.

T12-4 Calcutta, located on the River
Hoogly in North-Eastern India, was well-
known to British square-riggers as an
exporter of rice and jute, used for making
burlap cloth.

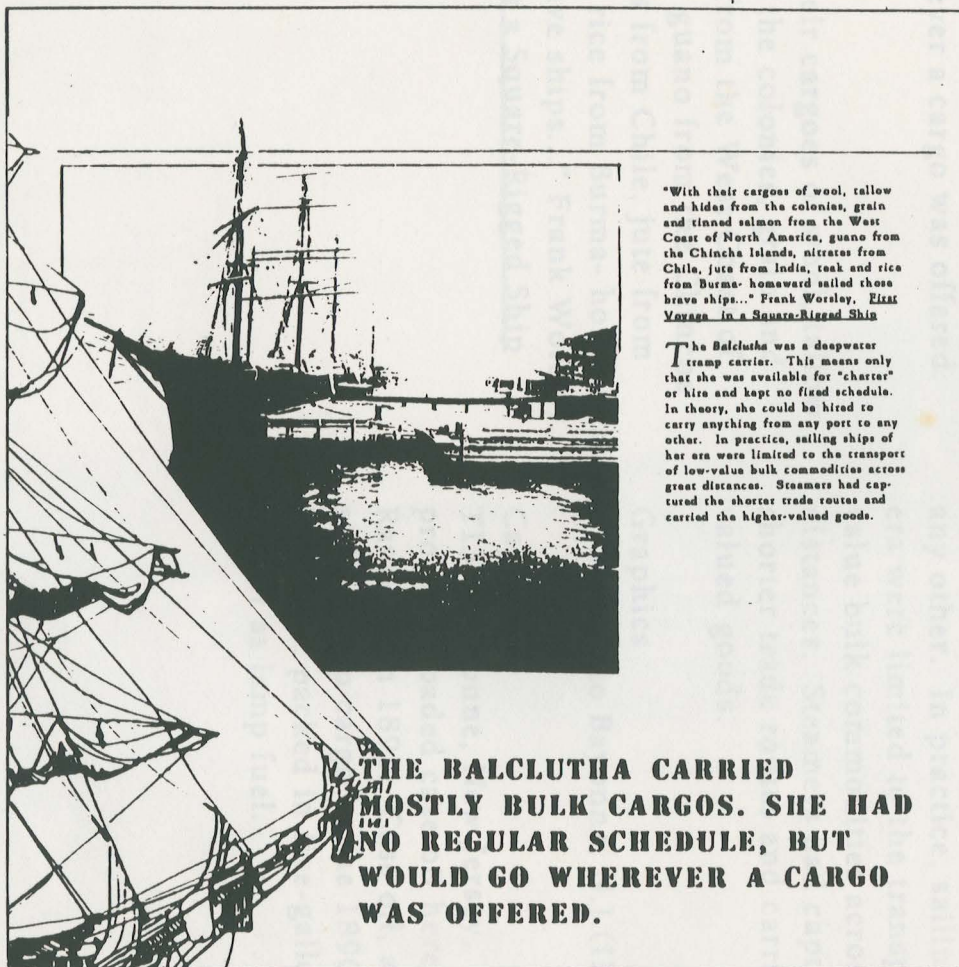
T12-5 The port of Antwerp, Belgium.
Antwerp was one of the busiest of the
Continental ports. The *Balclutha's* cargo for
San Francisco in 1889 included cement,
window glass, soap, sulphur, steel wire,
olive oil, and wines and liquors.





17 73





"With their cargoes of wool, tallow and hides from the colonies, grain and tinned salmon from the West Coast of North America, guano from the Chincha Islands, nitrates from Chile, jute from India, tea and rice from Burma- homeward sailed these brave ships..." Frank Worsley, *First Voyages in a Square-Rigged Ship*

The Balclutha was a deepwater tramp carrier. This means only that she was available for "charter" or hire and kept no fixed schedule. In theory, she could be hired to carry anything from any port to any other. In practice, sailing ships of her era were limited to the transport of low-value bulk commodities across great distances. Steamers had captured the shorter trade routes and carried the higher-valued goods.

THE BALCLUTHA CARRIED MOSTLY BULK CARGOS. SHE HAD NO REGULAR SCHEDULE, BUT WOULD GO WHEREVER A CARGO WAS OFFERED.



Tweendeck Panel

Voyages Group

T13- BALCLUTHA'S VOYAGE GRAPHICS PANEL (30" x 30")

Lead

T13-1 The *Balclutha* carried mostly bulk cargos. She had no regular schedule, but would go wherever a cargo was offered.

Quotation

T13-2 "With their cargoes of wool, tallow and hides from the colonies, grain and tinned salmon from the West Coast of North America, guano from the Chincha Islands, nitrates from Chile, jute from India, teak and rice from Burma- homeward sailed those brave ships..." Frank Worsley, First Voyage in a Square-Rigged Ship

Key Label

T13-3 The *Balclutha* was a deepwater tramp carrier. This means only that she was available for "charter" or hire and kept no fixed schedule. In theory, she could be hired to carry anything from any port to any other. In practice, sailing ships of her era were limited to the transport of low-value bulk commodities across great distances. Steamers had captured the shorter trade routes and carried the higher-valued goods.

Graphics

T13-4 Photo Bayonne, N.J.(I12.19,769n)

Caption

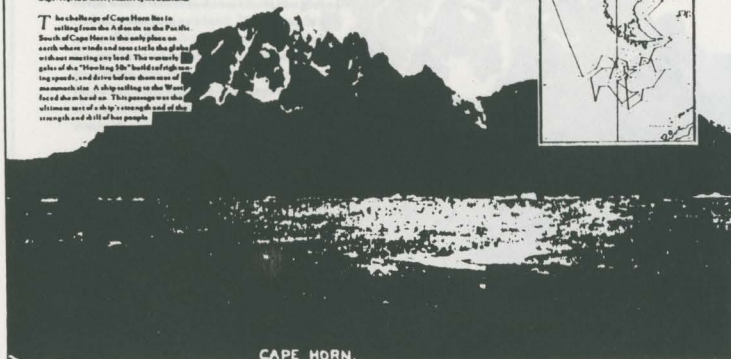
T13-5 Bayonne, New Jersey. The *Balclutha* probably loaded case oil here for delivery to Rangoon in 1891. Case oil, a common sailing ship cargo in the 1890s, was kerosene, packed in five-gallon cans for export as lamp fuel.

THE CAPE HORN PASSAGE

"I can see these winds off Cape Horn sometimes we could get down quite a bit and then it would blow harder and drive us back again, and before we finally get around we had half the crew laid up, most of them with bads. Trying to get around Cape Horn with heavy weather like this is one of the hardest problems a man can be up against." Minutes of Cape Alfred Drake, Master of the *Balclutha*.

The challenge of Cape Horn lies in sailing from the Atlantic to the Pacific. South of Cape Horn is the only place on earth where winds and seas strike the globe without coming any land. The westerly gales of the "Howling 10's" build to righting squalls, and drive before them waves of mammoth size. A ship sailing to the West faced the onshore wind. This passage was the ultimate test of a ship's strength and of the strength and skill of her people.

THE BALCLUTHA ROUNDED CAPE HORN SEVENTEEN TIMES.



THE ONLY WAY FOR A SHIP TO GET FROM EUROPE TO CALIFORNIA WAS BY WAY OF CAPE HORN. SAILORS CALLED IT "CAPE STIFF."

Before the opening of the Panama Canal in 1914, the Cape Horn passage was the only sea route between the Atlantic and the Pacific. The passage from England to San Francisco was about 14,000 miles. The rounding of the Horn, calculated from 15 degrees north latitude to the 45th or 50th degrees south latitude in the Pacific, could take anywhere from seven to thirteen months, depending on luck, if the weather.

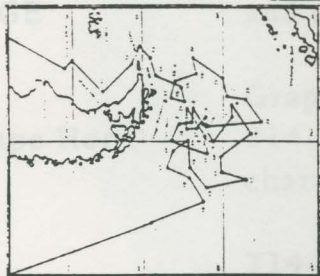
The big square-riggers like the *Beck*, often called "Cape Horners," were built specifically for the Cape Horn passage. A square-rigger could be expected to push a sailing ship to the limits of her design. The men, living in damp, unheated quarters, were not usually valuable to the Cape Horn conditions. They were built, from knee and girth men, carrying the deck load that roll, often reducing the force of a five-ton swell ship could only come away from the Horn and open for better weather.



**THE BALCLUTHA ROUNDED CAPE HORN
SEVENTEEN TIMES.**

"I was once three weeks off Cape Horn. Sometimes we would get ahead quite a lot and when it would blow harder and drive us back again, and be fore we finally get around we had half the men laid up, most of them with berls. T trying to get around Cape Horn with heavy worst gets blowing is one of the hardest problems a man can be up against." Memoirs of Capt. Alfred Durkin, Master of the *Baldwin*.

The challenge of Cape Horn lies in sailing from the Atlantic to the Pacific. South of Cape Horn is the only place on earth where winds and seas circle the globe without meeting any land. The westerly gales of the "Howling 50s" build to frightening speeds, and drive before them seas of monstrous size. A ship sailing to the West forced them head on. This passage was the ultimate test of a ship's strength and of the strength and skill of her people.



CAPE HORN.



Tweendeck Panel

Cape Horn Group

T14- CAPE HORN PASSAGE CHART PANEL (30" x 40")

Title

T14-1 THE CAPE HORN PASSAGE

Lead

T14-2 The *Balclutha* rounded Cape Horn seventeen times.

Quotation

T14-3 "I was once three weeks off Cape Horn. Sometimes we would get ahead quite a lot and then it would blow harder and drive us back again, and before we finally got around we had half the men laid up, most of them with boils. Trying to get around Cape Horn with heavy west gales blowing is one of the hardest problems a man can be up against." Memoirs of Capt. Alfred Durkee, Master of the *Balclutha*

Key Label

T14-4 The challenge of Cape Horn lies in sailing from the Atlantic to the Pacific. South of Cape Horn is the only place on earth where winds and seas circle the globe without being blocked by land. The westerly gales of the "Howling 50s" build to

frightening speeds, and the seas rise to mammoth size. A ship sailing to the West faced them head on. This passage was a test of a ship's strength and of the strength and skill of her people.

Graphic

T14-5 Screen reproduction of Cape Horn chart showing passage.

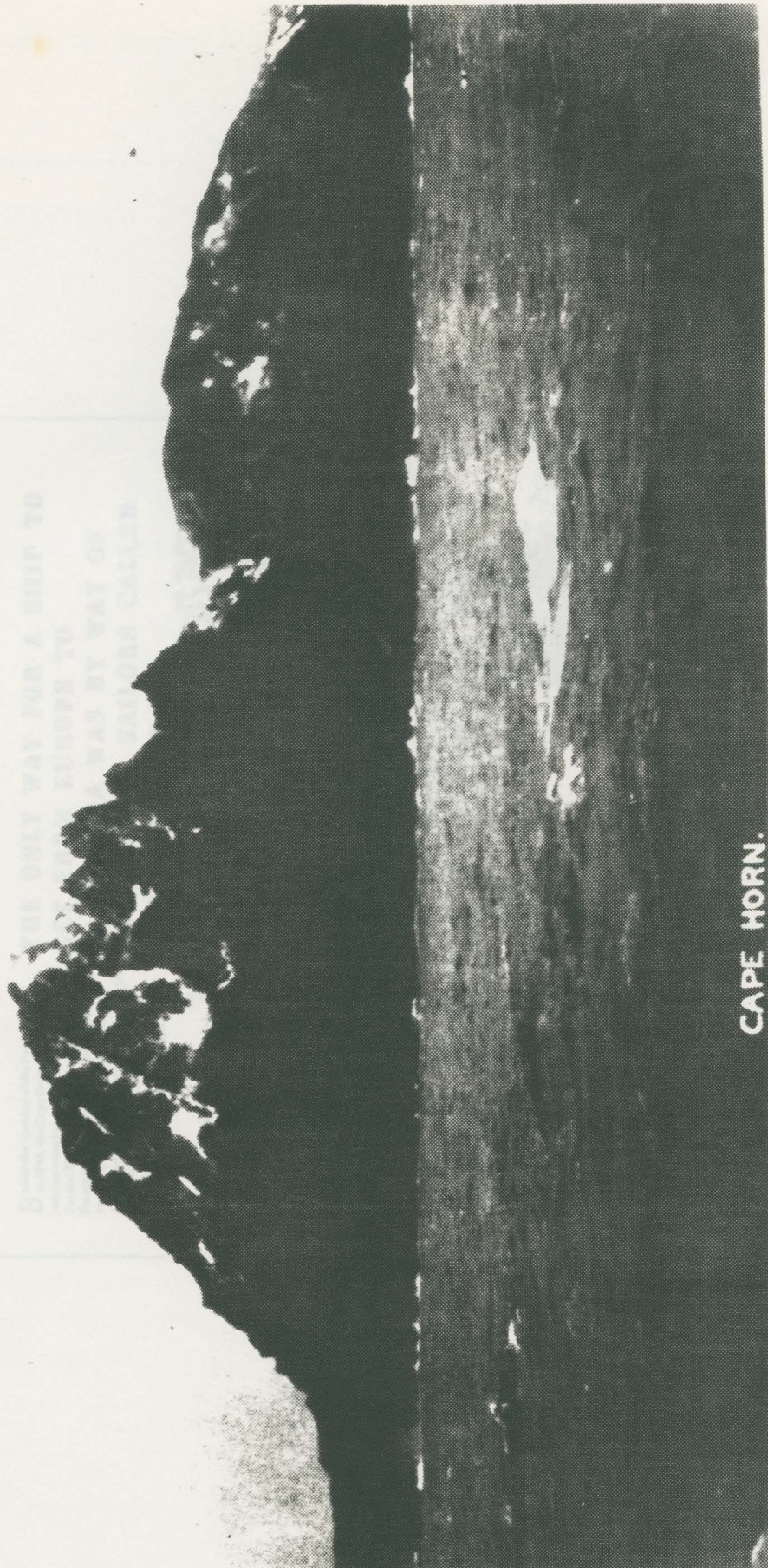
T14-6 Photo, Cape Horn

Caption

T14-7 Identification of vessel and year of passage above.

T14-8 Cape Horn is a rocky headland on Horn Island, one of a group located to the South of Tierra Del Fuego. Most ships did not pass within sight of the Cape, preferring to give it a wide berth.

THE ONLY WAY FOR A SHIP TO
GO FROM EUROPE TO
ASIA WAS BY WAY OF
THE STRAIT OF GIBRALTAR

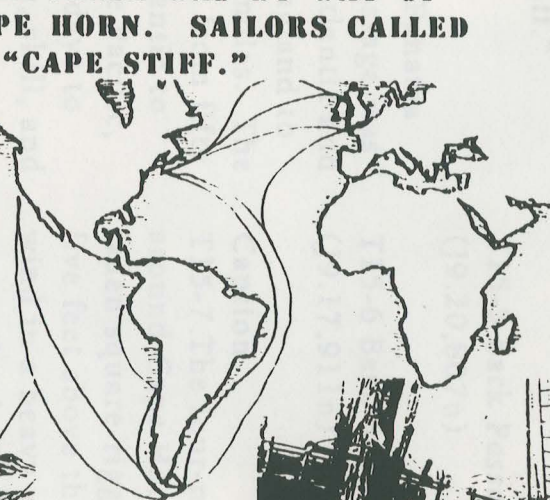


CAPE HORN.

Before the opening of the Panama Canal in 1914, the Cape Horn passage was the only sea route between the Atlantic and the Pacific. The passage from England to San Francisco was about 14,000 miles. The rounding of the Horn, calculated from fifty degrees south latitude in the Atlantic, could take anywhere from seven days to three months, depending on luck, and the weather.

The big square-riggers like the *Belch*, often called "Cape Horners," were built specifically for the Cape Horn passage. A winter rounding could be expected to push a sailing ship to the limits of her design. The men, living in damp, unheated fore-cles, were extremely vulnerable to the Cape Horn conditions. Salt water, frost, and green seas sweeping the deck took their toll, often reducing the force of active men until a ship could only turn away from the Horn and run for better weather.

THE ONLY WAY FOR A SHIP TO GET FROM EUROPE TO CALIFORNIA WAS BY WAY OF CAPE HORN. SAILORS CALLED IT "CAPE STIFF."





Tweendeck Panel

Cape Horn Group

T15- CAPE HORN PASSAGE TEXT PANEL (30" x 30")

Lead

T15-1 The only way for a ship to get from Europe to California was by way of Cape Horn. Sailors called it "Cape Stiff."

Key Label

T15-2 Before the opening of the Panama Canal in 1914, the Cape Horn passage was the only sea route between the Atlantic and the Pacific. The passage from England to San Francisco was about 14,000 miles. The rounding of the Horn, calculated from fifty degrees south latitude in the Atlantic to fifty degrees south latitude in the Pacific, could take anywhere from seven days to three months, depending on luck, skill, and the weather.

T15-3 The big square-riggers like the *Balclutha*, often called "Cape Horners," were built specifically for the Cape Horn passage. A winter rounding could be expected to push a sailing ship to the limits of her design. The men, living in damp, unheated fo'c's'les, were extremely vulnerable to the Cape Horn conditions. Salt water boils, frostbite, and green seas sweeping the deck took their toll, often reducing the force of active men until a

ship could only turn away from the Horn and run for better weather.

Graphics

T15-4 Large-scale chart showing route from Europe to Pacific ports.

T15-5 Bark *Passat* seas on deck
(J9.20,807n)

T15-6 Bark *Songdal*, crew sheltered...
(J9.17,911n)

Caption

T15-7 The four-masted Bark *Passat*, bound around Cape Horn. The main deck of a laden square-rigger might be only four or five feet above the water. Heeled to the wind in a heavy weather, the seas often swept the decks. Only the water tightness of all deck openings kept the ship from sinking.

T15-8 The watch of the Norwegian four-masted bark *Songdal* shelter near the fo'c's'le head during heavy weather. On deck twelve hours each day, the men never got warm or dry on during a difficult rounding of the Horn.





THE GRAIN TRADE

Between the years 1870 and the late 1880s, the grain trade was the most important business in San Francisco. The city's economy was based on the export of grain, and the city's reputation as a major port was built on the grain trade. The city's grain trade was the most important business in the city, and the city's reputation as a major port was built on the grain trade.

California wheat farmers began to export their grain to San Francisco in the late 1870s. The city's grain trade was the most important business in the city, and the city's reputation as a major port was built on the grain trade.



THE BALCLUTHA CAME TO SAN FRANCISCO FOUR TIMES TO LOAD WHEAT, CALIFORNIA'S MOST IMPORTANT EXPORT PRODUCT AFTER THE GOLD RUSH.

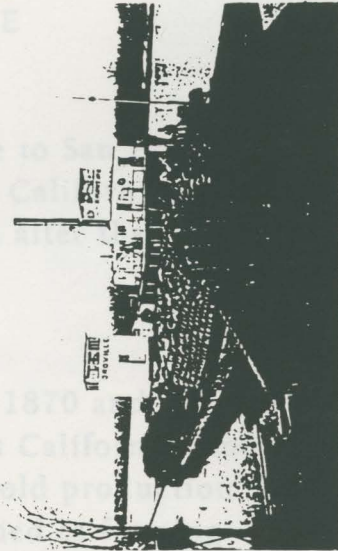


The grain trade was the most important business in San Francisco. The city's economy was based on the export of grain, and the city's reputation as a major port was built on the grain trade. The city's grain trade was the most important business in the city, and the city's reputation as a major port was built on the grain trade.

THE GRAIN TRADE

Between the about 1870 and the late 1890s, wheat farming was California's most important business. As gold production slowed, the state had turned to farming. Wheat, easily grown on unirrigated land, became the major crop. European demand for California wheat stimulated large scale farming, and with it river and rail transportation, banking and finance, and general commerce.

California wheat farms grew to huge size. The great "bonanza" spread, as large as 50,000 acres and worked by mule or steam powered machines, were among the first industrialized farms. Production reached its peak in 1894. The business declined in the late 1890s as new foreign competition reduced demand, and more sophisticated, diversified agriculture was developed.



THE BALCLUTHA CAME TO SAN FRANCISCO FOUR TIMES TO LOAD WHEAT. CALIFORNIA'S FIRST IMPORTANT EXPORT PRODUCT AFTER THE GOLD RUSH.



Tweendeck Panel

Grain Group

T16- GRAIN FARMING TEXT AND GRAPHICS PANEL (30" X 40")

Title

T16-1 THE GRAIN TRADE

Lead

T16-2 The *Balclutha* came to San Francisco four times to load wheat, California's first important export product after the Gold Rush.

Key Label

T16-3 Between the about 1870 and the late 1890s, wheat farming was California's most important business. As gold production slowed, the state had turned to farming. Wheat, easily grown on unirrigated land, became the major crop. European demand for California wheat stimulated large-scale farming, and with it river and rail transportation, banking and finance, and general commerce.

T16-4 California wheat farms grew to huge size. The great "bonanza" spreads, as large as 50,000 acres and worked by mule or steam powered machines, were among the first industrialized farms. Production reached it's peak in 1884. The business declined in the late 1890s as new foreign competition reduced demand, and more sophisticated, diversified agriculture was developed.

Graphic

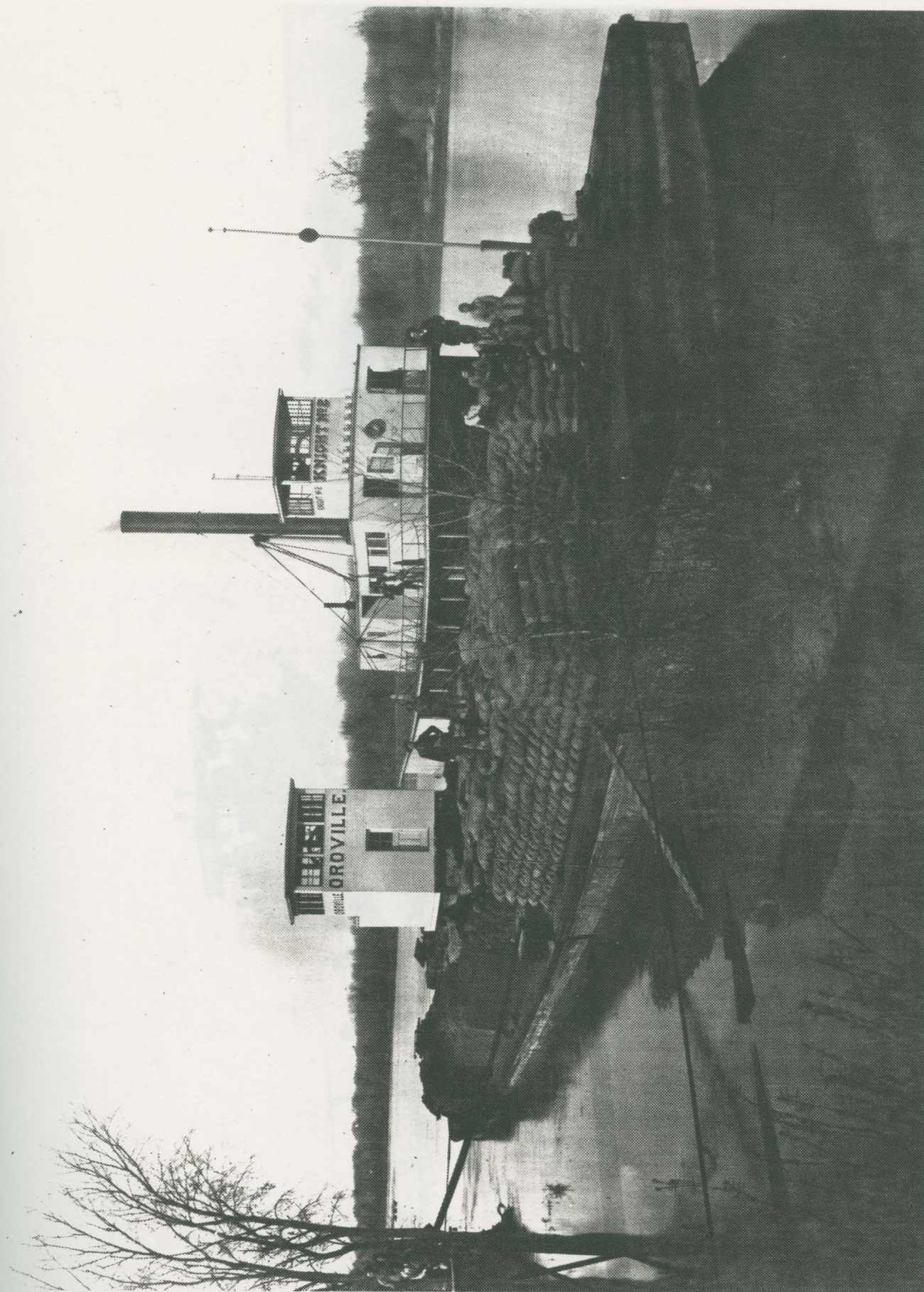
T16-5 Mule-drawn combine (11.274n)

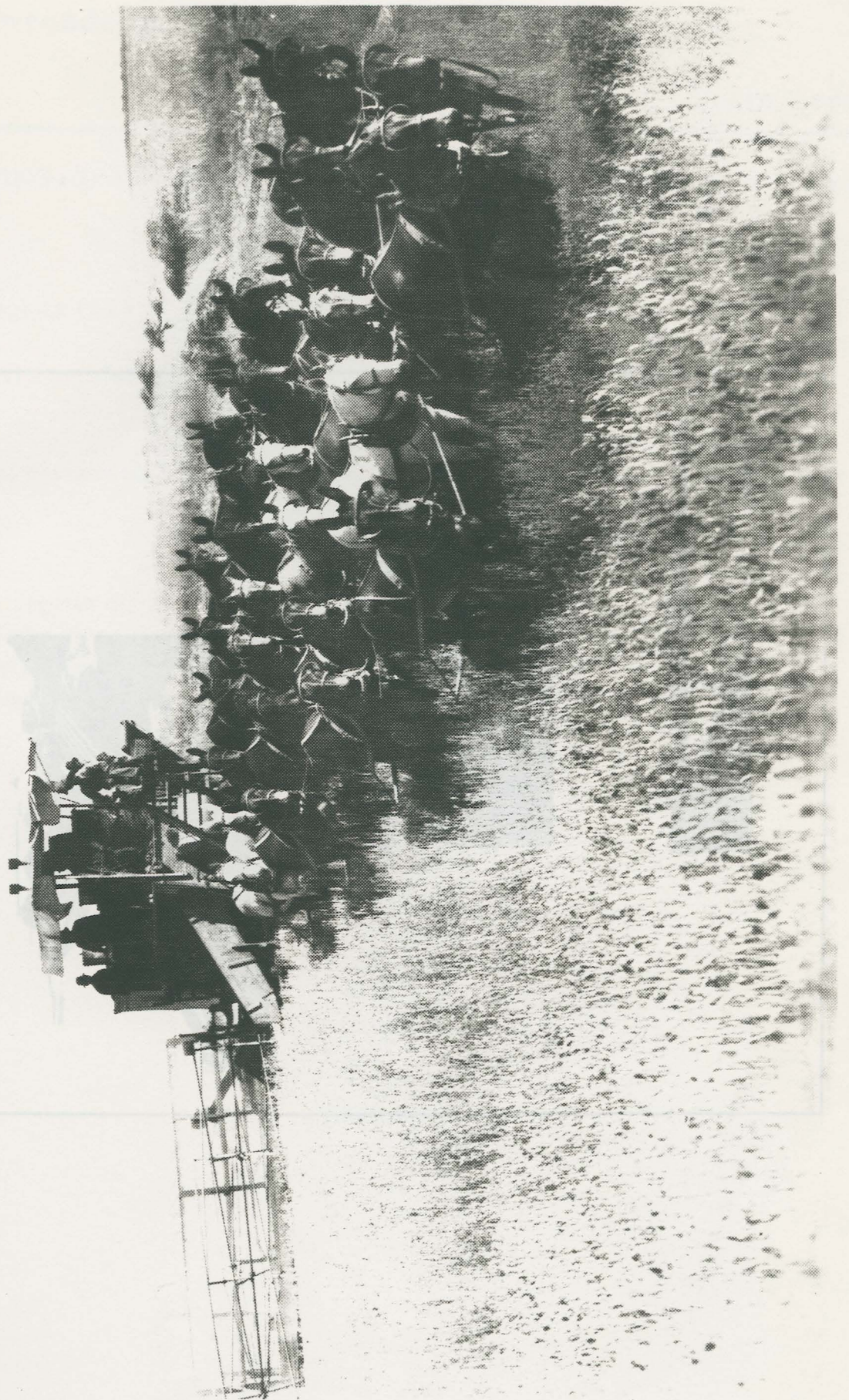
T16-6 Grain Laden barge (C2.34n)

Captions

T16-7 A mule-drawn combine in the wheat fields. High local labor costs put a premium on mechanization. The big California farms ushered in a new era of industrialized agriculture.

T16-8 A barge and a sternwheel towboat load wheat at a Sacramento River landing about 1890. River transport was much cheaper than the railroads, and was used whenever possible.





Tweendeck Panel

Grain Grow

Tweendecks Panel #17

T17- GRAIN SHIPPING GRAPHICS PANEL (30" x 40")

Graphics

T17-1 Grain ship regatta (C11,22,283n)

T17-2 Grain docks at Port Costa
(C11,20,288n)

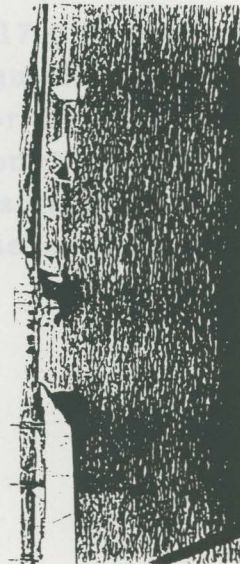
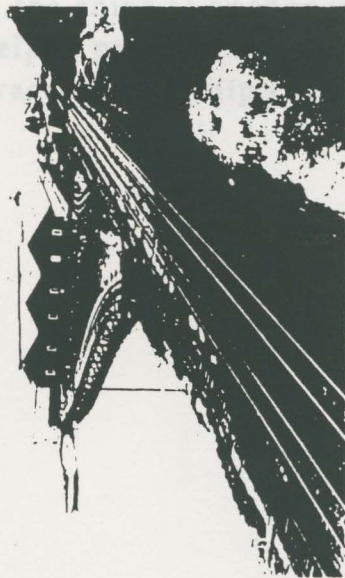
T17-3 Grain ships at Richardsons Bay
(B11,26,822n)

Captions

T17-4 A grain fleet regatta off Martinez in
1897. The crews of the
Carquinez Straits held
milling and rowing regattas.

T17-5 The grain docks at Port Costa, about
1900. Here rail and river routes met the
upper reaches of the Bay. The grain was
hauled in sacks, so no elevators were
required. Ships were often loaded
simultaneously from barges alongside and
the big warehouses.

T17-6 Richardsons Bay, off the town of
San Francisco, another favorite anchorage
for grain ships. The ships were
so close together that they could not
move forward for the
Cargoes to speed up faster at
the





Tweendeck Panel

Grain Group

T17- GRAIN SHIPPING -GRAPHICS PANEL (30" x 40")

Graphics

T17-1 Grain ship regatta (C11.22,283n)

T17-2 Grain docks at Port Costa
(C11.30,288n)

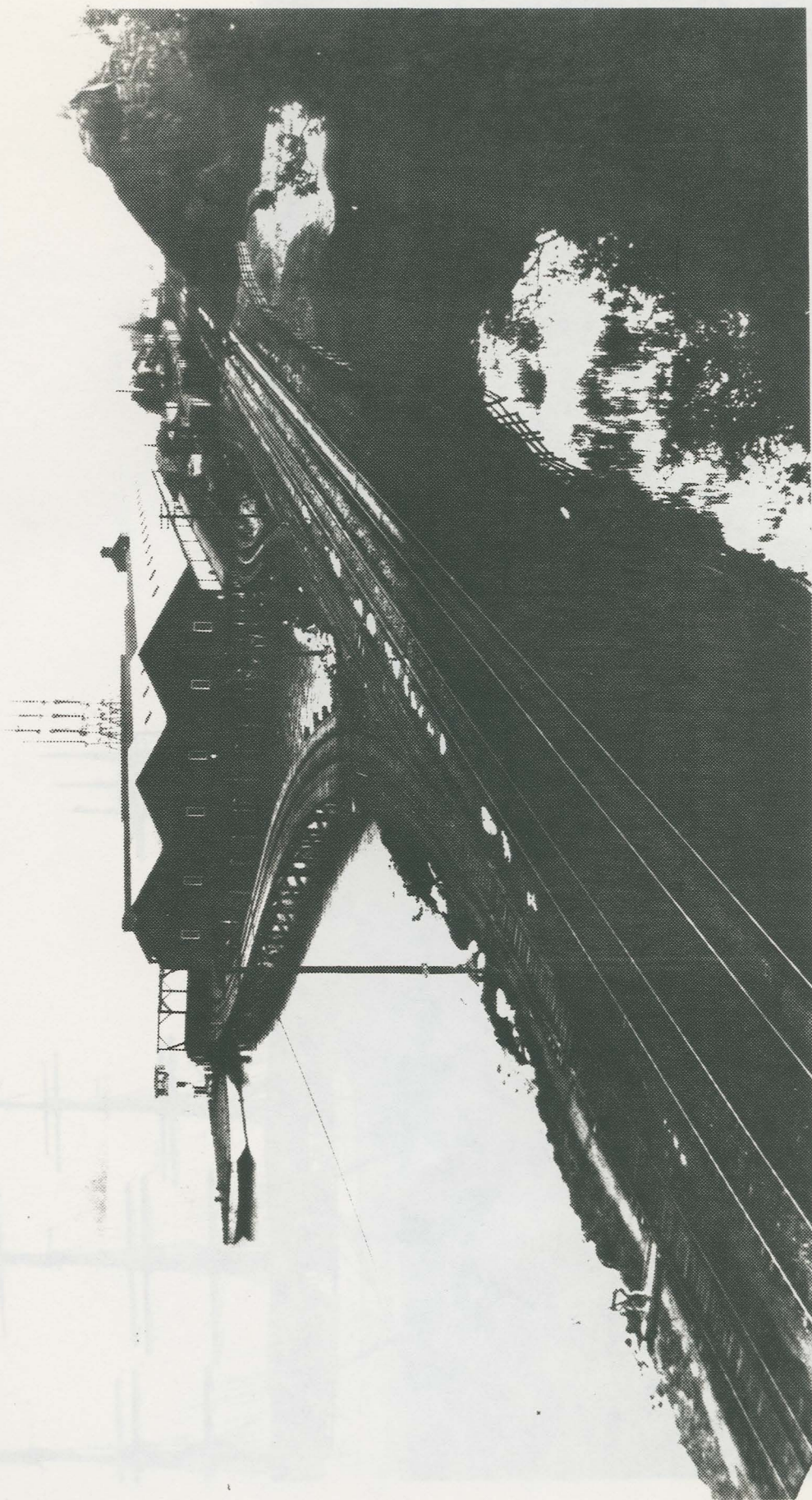
T17-3 Grain ships at Richardsons Bay
(B11.26,822n)

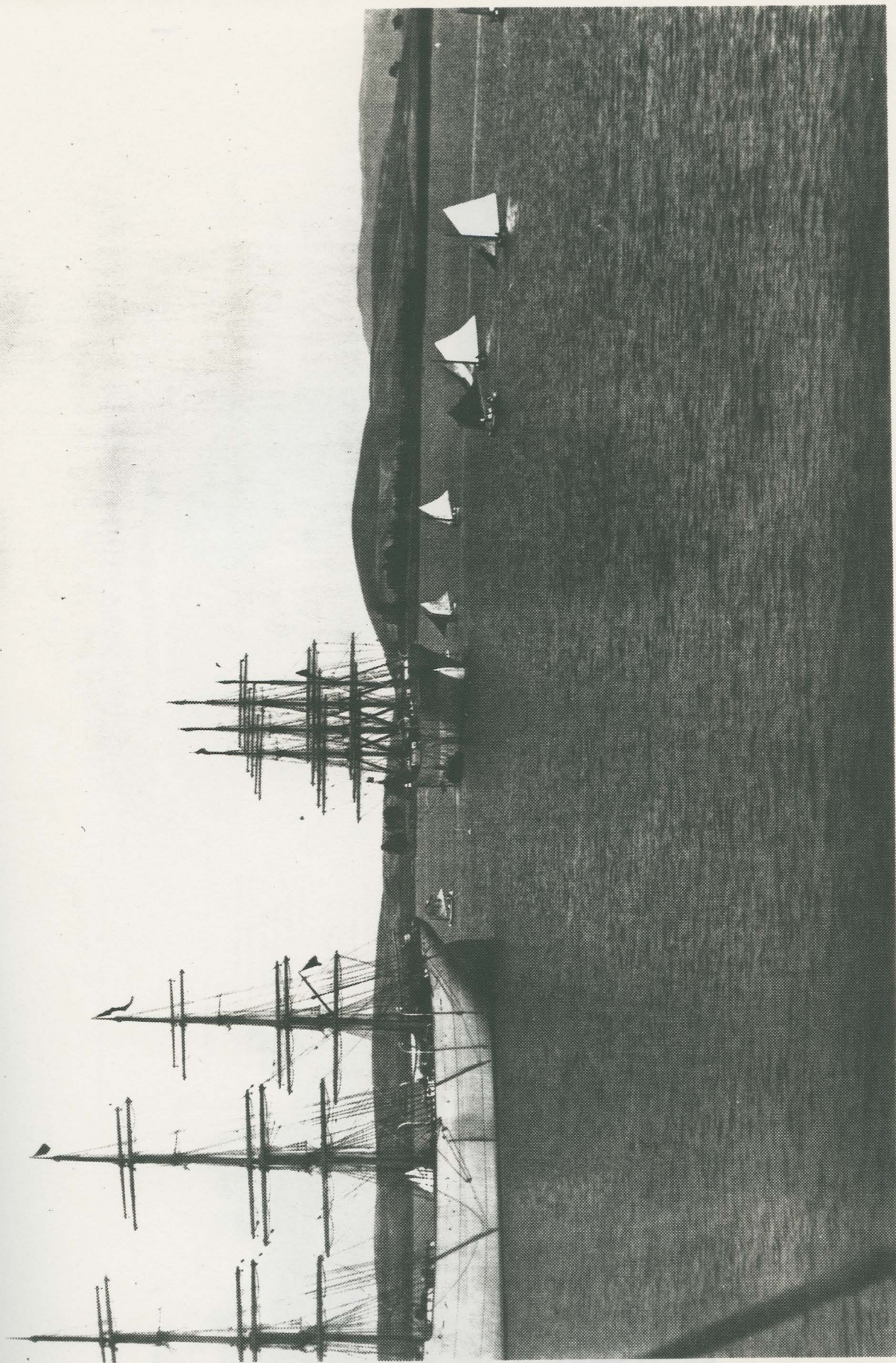
Captions

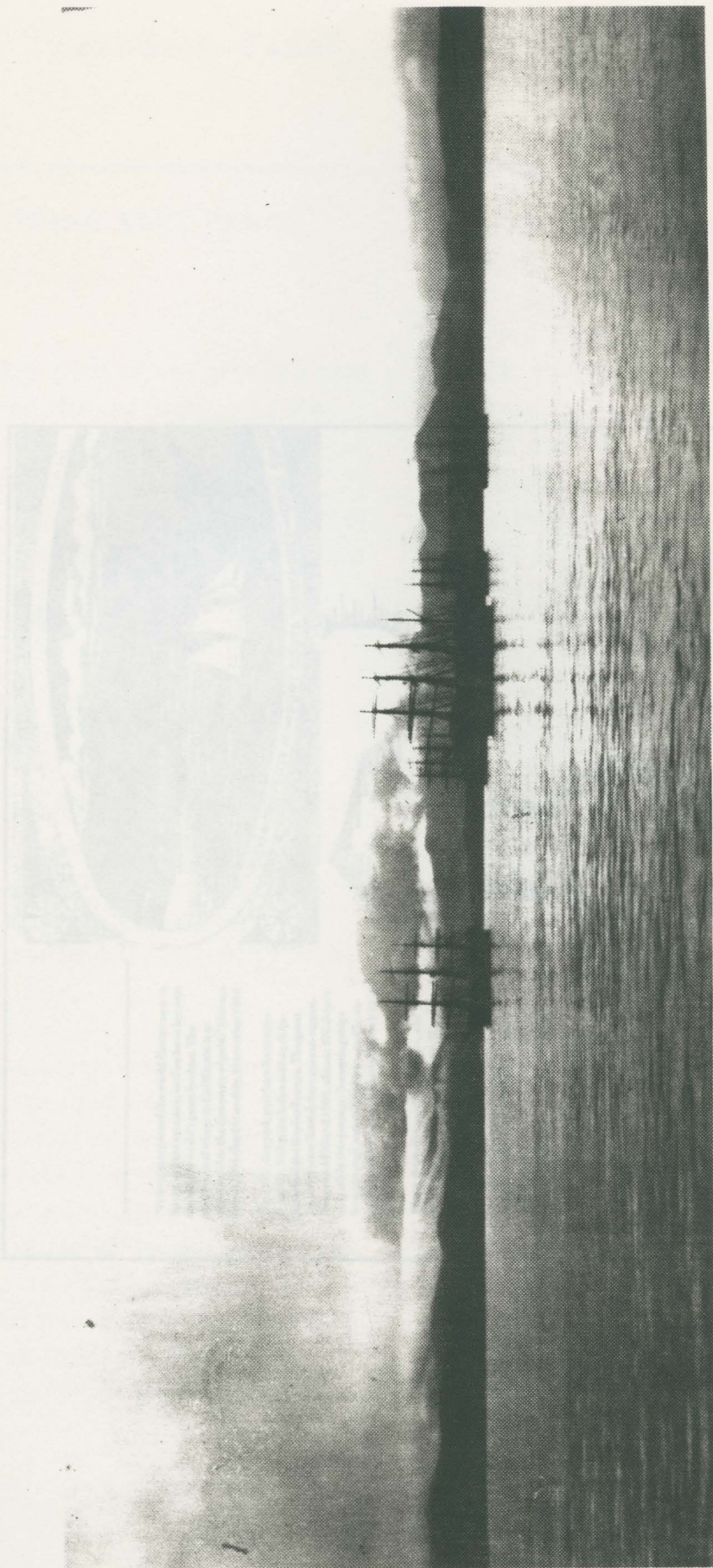
T17-4 A grain fleet regatta off Martinez in 1897. The crews of the ships at anchor in Carquinez Straits helped pass the time with sailing and rowing races in the ship's boats.

T17-5 The grain docks at Port Costa, about 1900. Here rail and river routes met the upper reaches of the Bay. The grain was handled in sacks, so no elevators were required. Ships were often loaded simultaneously from barges alongside and from the warehouses.

T17-6 Richardsons Bay, off the town of Sausalito, was another favorite anchorage for the grain fleet. The ships were sometimes there long enough for the Captain's children to spend a semester at the local school.









Tweendeck Panel

Grain Group

T18- GRAIN SHIPPING TEXT PANEL (30" x 30")

Quotation

T18-1 "From every port of the world fleets come to bear away the treasure, and we have become one of the world's great feeders. The discovery of wheat in California is as wonderful as the discovery of gold." Horace Davis, Overland Monthly November 1868

Key Label

T18-2 In 1882, the peak year for wheat shipments, 543 grain laden sailing ships departed the Bay for Europe. The great majority were British iron square-riggers. Between 1870 and 1900, almost 300 ships a year made this passage. Incoming ships brought coal, cement, pig iron, and European consumer goods, reducing local prices of these goods.

T18-3 Grain ships often waited months, and sometimes years, to load cargoes. Usually this was only a matter of waiting for the harvest, but disputes over shipping rates could make for long lay-ups. The ships anchored off Sausalito or in the upper Bay near the grain ports. Crews deserted or were paid off, and new crews were hired when the ship was loaded. The *Balclutha* was fortunate in never having a long lay-up

here. Her longest stay, in 1889, was only 67 days.

T18-4 In the early years, most grain was shipped from San Francisco, but by the 1880s, the focus shifted to Port Costa on Carquinez Straits. Here rail and river traffic met the deep water of the Bay, and the docks and warehouses accommodated up to thirty ships at a time. As many as 23,000 sacks could be put aboard a vessel during a nine hour shift.

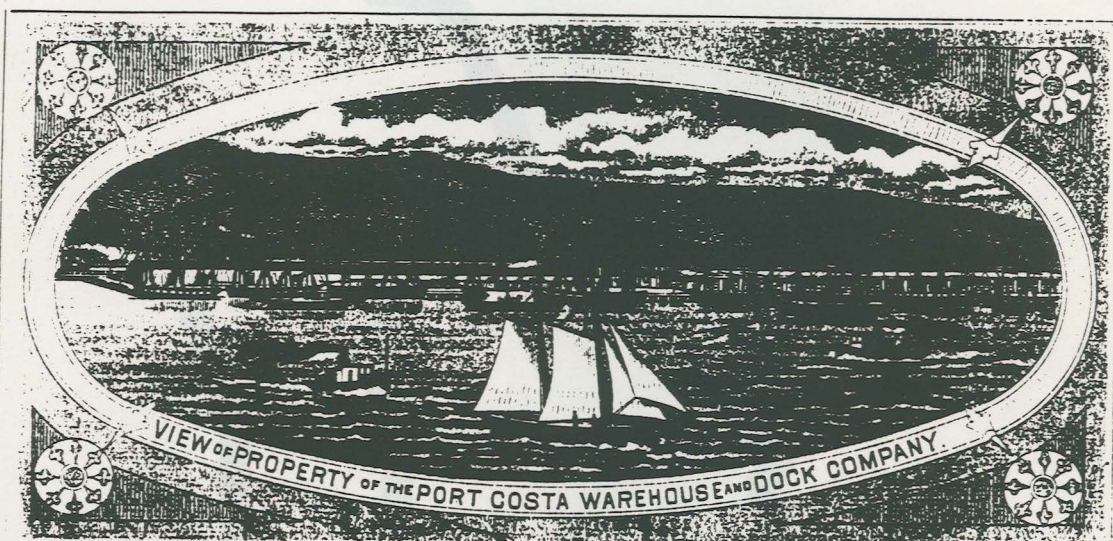
Graphics

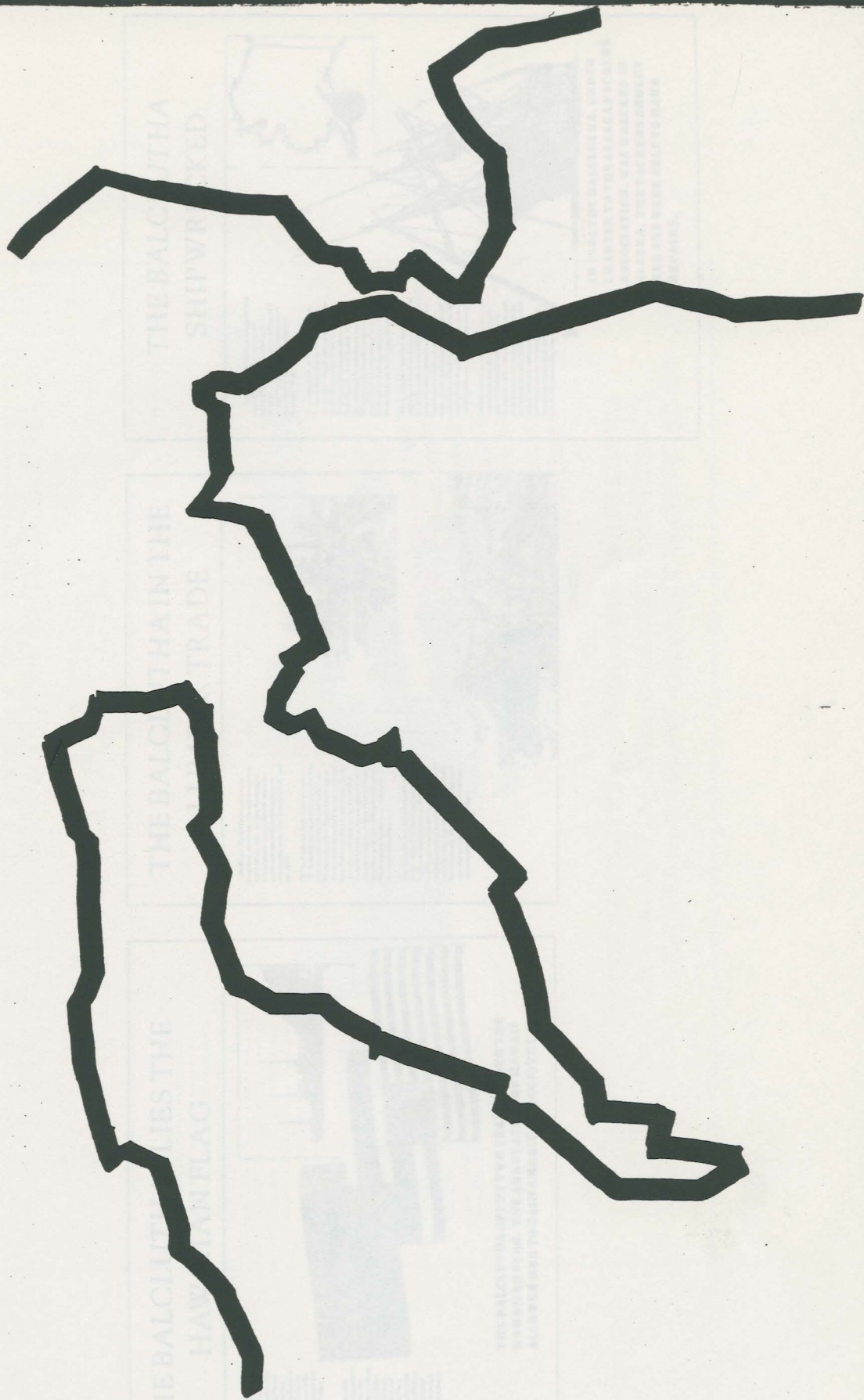
T18-5 Port Costa billhead (C11.7,012s)

T18-6 Map showing Port Costa.

Caption

T18-7 Caption for Map

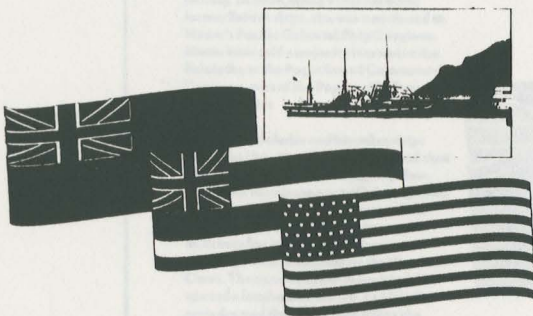




THE BALCLUTHA FLIES THE HAWAIIAN FLAG

Hardly after entering San Francisco in 1899 the Balclutha was sold to L. D. Spence, a Hawaiian citizen acting as agent for J. J. Moore, of San Francisco. The ship passed from the British to the Hawaiian flag in 1900, along with four other former British ships, she was transferred to Moore's Pacific Colonial Ship Company. Moore later sold a majority interest in the Balclutha to the Puget Sound Commercial Company, part of the Puget and Tabor lumber empire.

With the Balclutha and his other ships under the Hawaiian flag, Moore hoped that they might gain American registry. Foreign-built vessels are normally barred from American registry, and may not trade between American ports. American vessels built very few metal square riggers, and such ships were in demand on the West Coast. The annexation of Hawaii in 1898 opened a loophole in the law. In 1901 Congress declared that ships then flying the Hawaiian flag be granted American registry. The Balclutha was admitted to American registry on March 1, 1901.



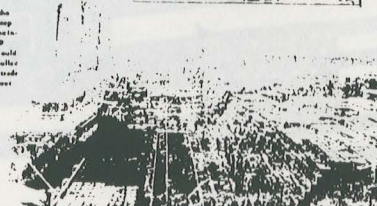
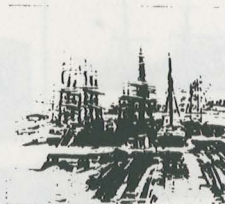
THE BALCLUTHA SPENT TWO YEARS UNDER THE HAWAIIAN FLAG. THE ANNEXATION OF HAWAII ALLOWED HER TO GAIN AMERICAN REGISTRY IN 1901.

THE BALCLUTHA IN THE LUMBER TRADE

The British ship Balclutha is now a San Francisco-owned ship. The well-known house of J. J. Moore & Co. are now the managing owners and the vessel is in the hands of a small company in the lumber and general merchandise trade. "San Francisco Call," June 16, 1900

The Balclutha made three voyages to Australia between 1899 and 1901. The first two trips took her from Port Blakely, Washington to Port Pirie with a cargo of timber and back to San Francisco with coal from Newcastle, New South Wales. On the second trip she returned by way of Honolulu. While there, she was admitted to American registry in June of 1901. On the third voyage she sailed from Port Blakely, Washington to Melbourne, and again returned to San Francisco.

The Balclutha was well suited for the lumber trade. Her small hull and deep hold made loading timber difficult. The collection of new lumber ports in 1898 helped somewhat, but the Balclutha would never be as handy as the big wooden-hulled lumber carriers. Her use in the lumber trade was an interim measure, designed to meet an unusual demand for tonnage.



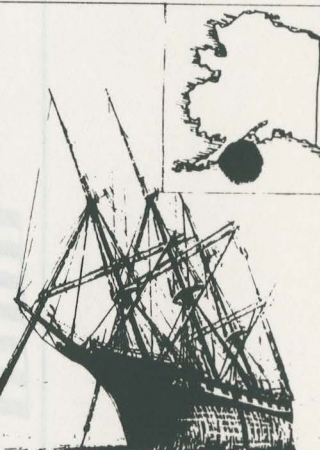
THE BALCLUTHA SHIPWRECKED

It was on the Balclutha and made the final voyage to Alaska. Of course we would naturally completely including the Chinese. It was the worst disaster since the loss of the ship, as far as living conditions were concerned. "Chicago Tribune," January, 1900

In 1901, 1903, and 1904 the Balclutha was chartered by the Alaska Packers Association to supply their salmon canneries. On the morning of May 14, 1904 the Balclutha ran aground on a reef off Chum Island, south of Kodiak. She took a heavy list and several hours to regain the balance. She took the crew and got stuck in the ice. The Chinese crew had been locked in the deck in one place. All hands, however, finally got safely ashore.

When it became clear that the Balclutha might be self-sufficing, the packers bought her for \$100. Her cargo was removed, she put on a new deck, and timber and canvas patches were placed in the hull. In July the Balclutha was pulled off and moved to Alaska. At a cost of \$100,000 she was abandoned due to heavy list, and the port back in Alaska for the winter.

In 1905 a salvage crew from San Francisco arrived to find the Balclutha once again aground, having dragged her mooring during the winter. After a difficult struggle, the ship was again pulled off and the ship was refloated in July. The Balclutha sailed to San Francisco, and was bought for \$100,000. In 1906 the packers bought a new ship which was more than twice the size of the Balclutha.

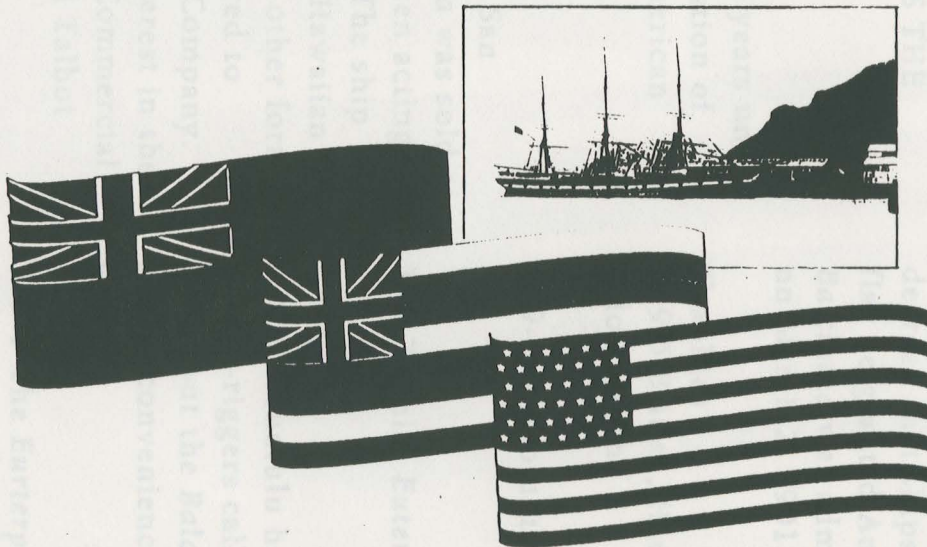


IN 1904 THE BALCLUTHA, UNDER CHARTER TO THE ALASKA PACKERS ASSOCIATION, WAS WRECKED IN ALASKA. THE PACKERS BOUGHT HER AND WERE ABLE TO MAKE REPAIRS.

THE BALCLUTHA FLIES THE HAWAIIAN FLAG

Shortly after arriving at San Francisco in 1899 the Balclutha was sold to, L.D. Spencer, a Hawaiian citizen acting as an agent for J.J. Moore, of San Francisco. The ship passed from the British to the Hawaiian flag. In 1900, along with four other former British ships, she was transferred to Moore's Pacific Colonial Ship Company. Moore later sold a majority interest in the Balclutha to the Puget Sound Commercial Company, part of the Pope and Talbot lumber empire.

With the Balclutha and his other ships under the Hawaiian flag, Moore hoped that they might gain American registry. Foreign-built vessels are normally barred from American registry, and may not trade between American ports. American yards built very few metal square-riggers, and such ships were in demand on the West Coast. The annexation of Hawaii in 1898 opened a loophole in the law. In 1901 Congress decreed that ships then flying the Hawaiian flag be granted American registry. The Balclutha was admitted to American registry on March 2, 1901.



THE BALCLUTHA SPENT TWO YEARS UNDER THE HAWAIIAN FLAG. THE ANNEXATION OF HAWAII ALLOWED HER TO GAIN AMERICAN REGISTRY IN 1901.



Tweendeck Panel

Transitional Group

T19- HAWAIIAN REGISTRY (30" x 40")

Title

T19-1 THE BALCLUTHA FLIES THE HAWAIIAN FLAG

Lead

T19-2 The *Balclutha* spent two years under the Hawaiian flag. The annexation of Hawaii allowed her to gain American registry in 1901.

Key Label

T19-3 Shortly after arriving at San Francisco in 1899 the *Balclutha* was sold to L.D. Spencer, a Hawaiian citizen acting for J.J. Moore, of San Francisco. The ship passed from the British to the Hawaiian flag. In 1900, along with four other former British ships, she was transferred to Moore's Pacific Colonial Ship Company. Moore later sold a majority interest in the *Balclutha* to the Puget Sound Commercial Company, part of the Pope and Talbot lumber empire.

19-4 With the *Balclutha* and his other ships under the Hawaiian flag, Moore hoped that they might gain American registry. Foreign vessels are normally barred from American registry, and may not trade between American ports. American yards built very few metal square-riggers, and such ships

were in demand on the West Coast. The annexation of Hawaii in 1898 opened a loophole in the law. In 1901 Congress decreed that ships then flying the Hawaiian flag be granted American registry. The *Balclutha* was admitted to American registry on March 2, 1901.

Graphics

T19-5 British, Hawaiian and American flags, color screen

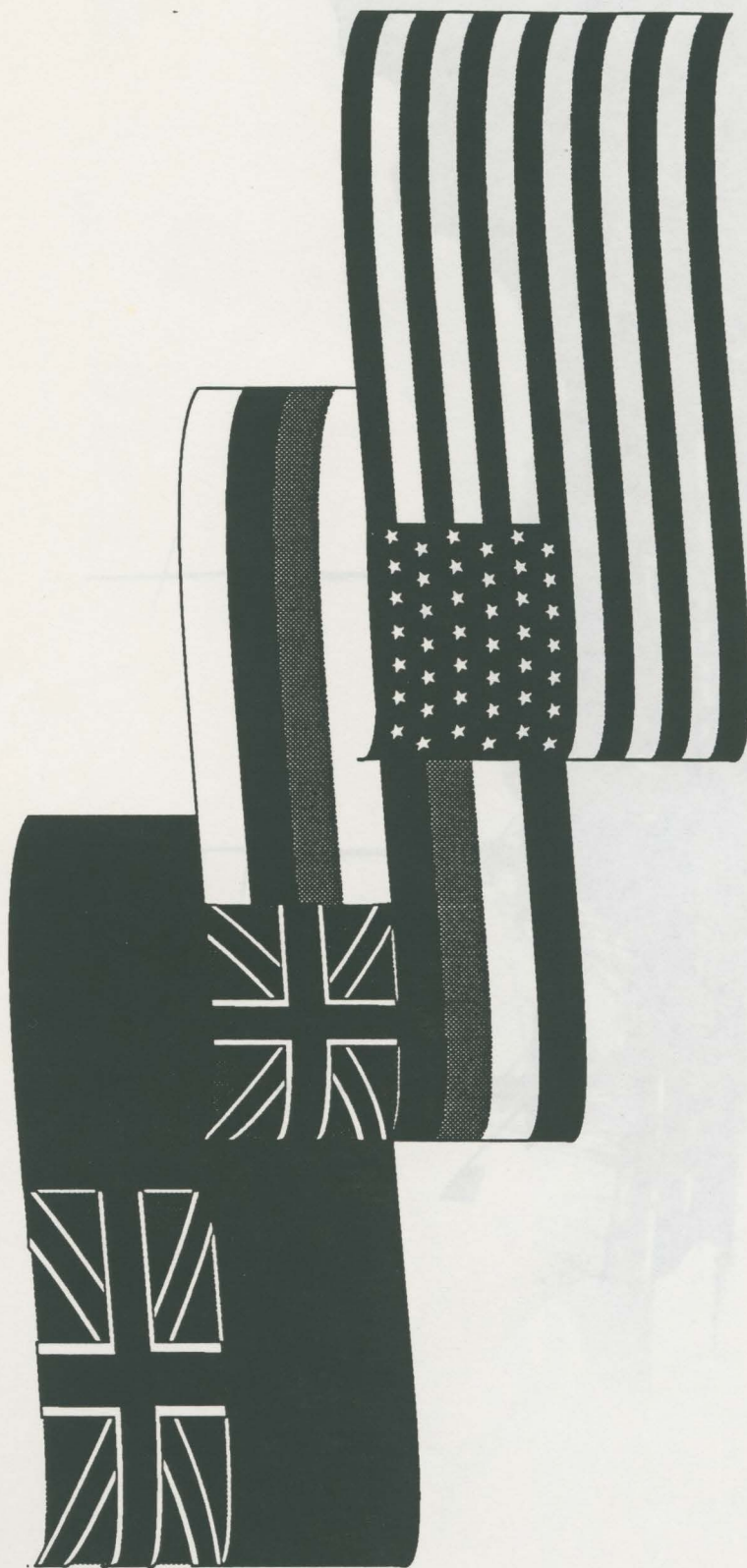
T19-6 Honolulu Harbor (H11.17201)

T19-7 Ship *Euterpe* (H1.7959n)

Captions

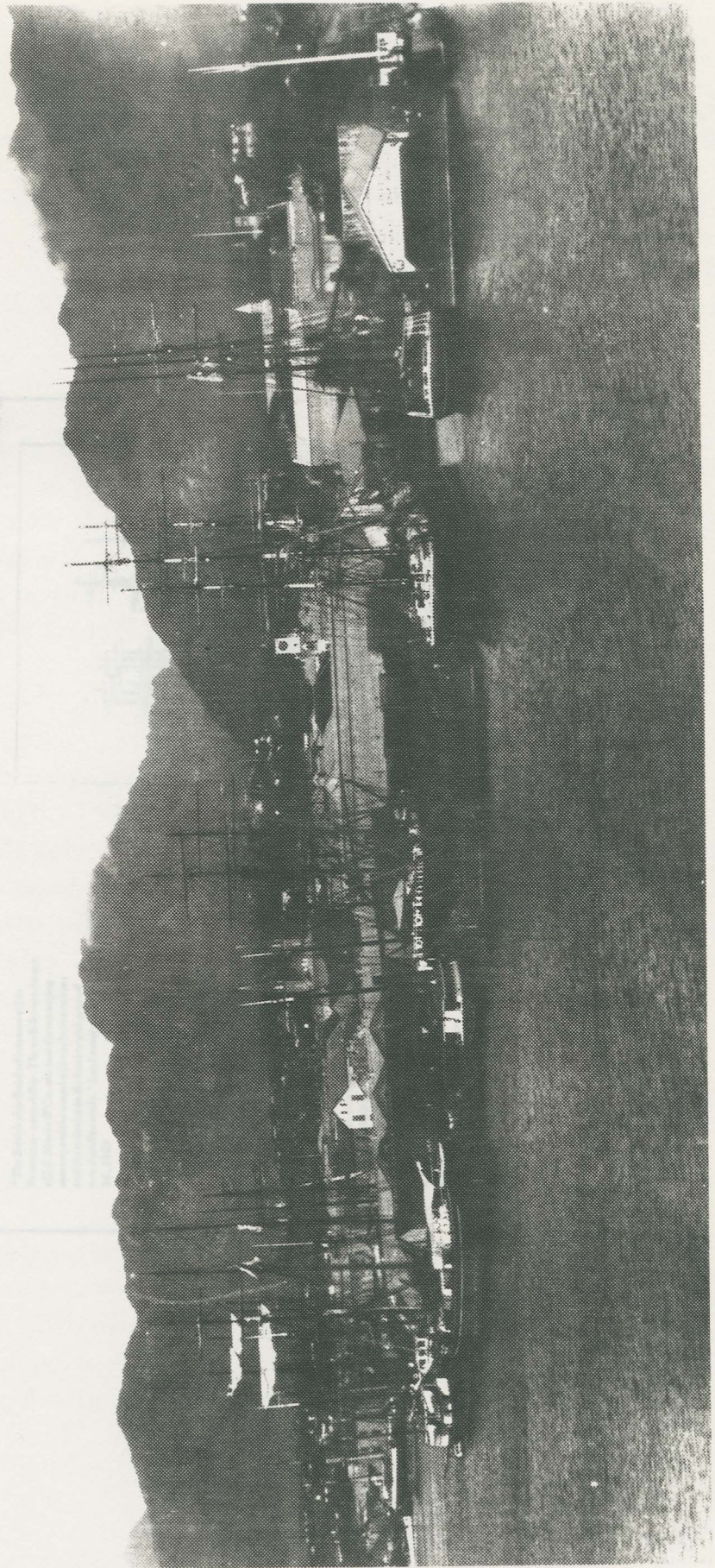
T19-8 Honolulu harbor in the 1890s. Square-riggers called regularly in the sugar trade, but the *Balclutha*, registered here as a flag of convenience, visited the port only once.

T19-9 The *Eurterpe*, another of J.J. Moore's fleet. Built in 1863, she is seen here during her early days in the New Zealand immigrant trade. She was renamed *Star of India* by the Alaska Packers, and is preserved today at San Diego.





THE BALCLUTHA IN THE LUMBER TRADE



Two Centuries Panel #20

T20- LUMBER TRADE PANEL (30" x 30")

would never be as handy as the big wooden-hulled lumber carriers. Her use in the lumber trade was an interim measure, designed to meet an unusual demand for tonnage.

Title

T20-1 THE BALCLUTHA IN THE LUMBER TRADE

Quotation

T20-2 "The British ship Balclutha was a San Francisco-ward ship. The well-known house of J.J. Moore & Co. was the managing owner between here and the lumber and general trade of the San Francisco Call, June 16, 1900.

Key Label

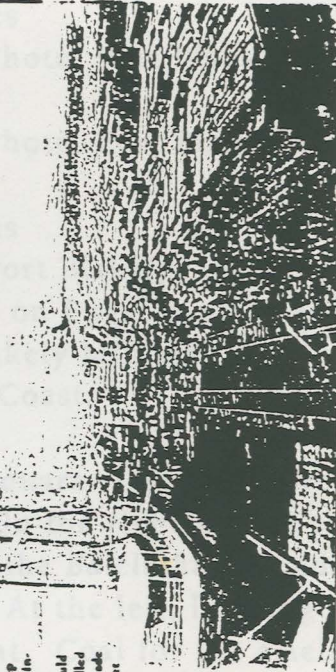
T20-3 The Balclutha made three voyages to Australia between 1899 and 1901. The first two trips took her from Port Blakely, Washington to Port Pirie with mine prop timber and back to San Francisco with coal from Newcastle. On the second trip she returned by way of Honolulu. While there, she was admitted to American registry in June of 1901. On the third voyage she sailed from Port Gamble, Washington to Melbourne, and again returned to San Francisco.

THE BALCLUTHA IN THE LUMBER TRADE

"The British ship Balclutha is now a San Francisco-ward ship. The well-known house of J.J. Moore & Co. are now the managing owners and the vessel will run between here and the colonies in the lumber and general merchandise trade." San Francisco Call, June 16, 1900

The Balclutha made three voyages to Australia between 1899 and 1901. The first two trips took her from Port Blakely, Washington to Port Pirie with mine prop timber and back to San Francisco with coal from Newcastle, New South Wales. On the second trip she returned by way of Honolulu. While there, she was admitted to American registry in June of 1901. On the third voyage she sailed from Port Gamble, Washington to Melbourne, and again returned to San Francisco.

The Balclutha was not well suited for the lumber trade. Her small hatches and deep hold made loading timber difficult. The installation of stern lumber ports in 1899 helped somewhat, but the Balclutha would never be as handy as the big wooden-hulled lumber carriers. Her use in the lumber trade was an interim measure, designed to meet an unusual demand for tonnage.





Tweendeck Panel

Transitional Group

T20- LUMBER TRADE PANEL (30" x 30")

Title

T20-1 THE BALCLUTHA IN THE LUMBER TRADE

Quotation

T20-2 "The British ship *Balclutha* is now a San Francisco-owned ship. The well-known house of J.J. Moore & Co. are now the managing owners and the vessel will run between here and the colonies in the lumber and general merchandise trade." San Francisco Call, June 16, 1900

Key Label

T20-3 The *Balclutha* made three voyages to Australia between 1899 and 1901. The first two trips took her from Port Blakely, Washington to Port Pirie with mine prop timber and back to San Francisco with coal from Newcastle, New South Wales. On the second trip she returned by way of Honolulu. While there, she was admitted to American registry in June of 1901. On the third voyage she sailed from Port Gamble, Washington to Melbourne, and again returned to San Francisco.

T20-4 The *Balclutha* was not well suited for the lumber trade. Her small hatches and deep hold made loading timber difficult. The installation of stern lumber ports in 1899 helped somewhat, but the *Balclutha*

would never be as handy as the big wooden-hulled lumber carriers. Her use in the lumber trade was an interim measure, designed to meet an unusual demand for tonnage.

Graphics

T20-5 Photo, Port Blakely (F20.17,887nl)

T20-6 Photo, Port Pirie (BHPA/PP17)

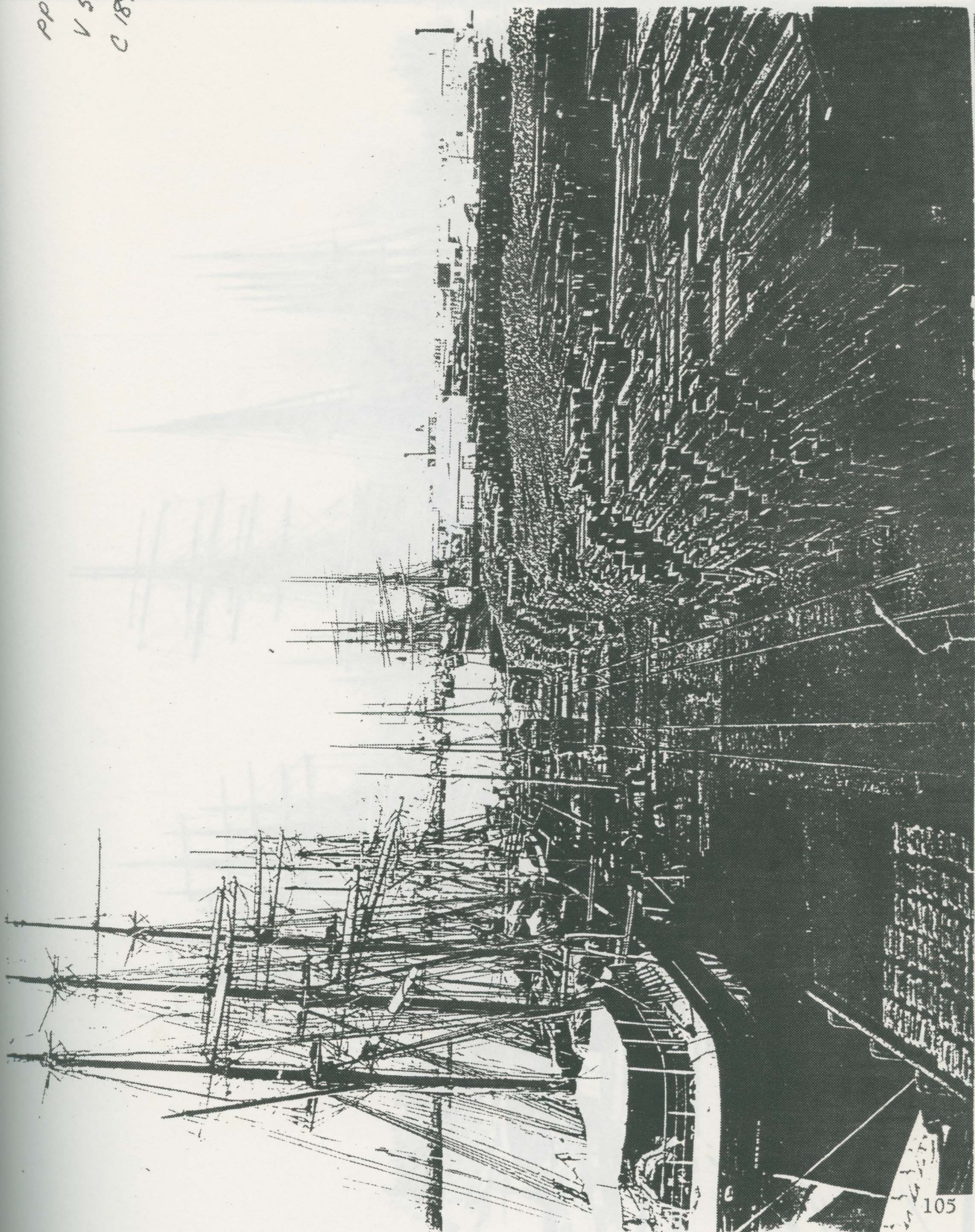
Captions

T21-7 Port Blakely, Washington, 1905. Located on Puget Sound near Seattle, the Port Blakely Mill was the largest on the Pacific Coast.

T20-8 Square-riggers at Port Pirie, about 1890. On the right are pit prop timbers such as the *Balclutha* carried from Puget Sound. At the left, lead ingots await shipment. Coal for the smelting works is piled at the right.

pp 17
V 54
C 1890.

605





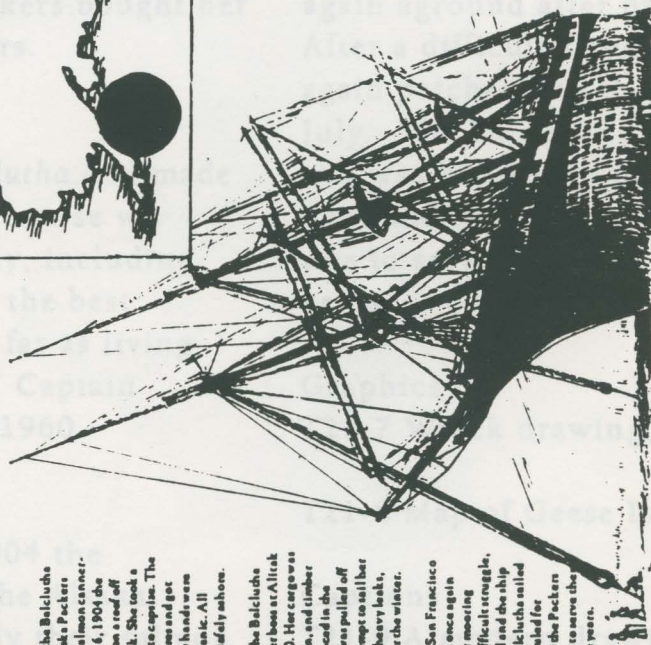
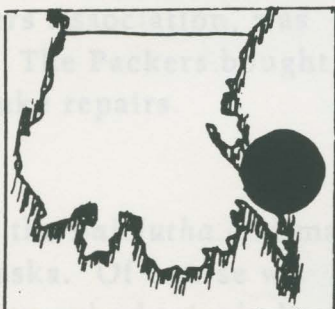
THE BALCLUTHA SHIPWRECKED

"...I went on the Balclutha and made this final trip to Alaska. Of course we rescued practically everybody, including the Chinese.... It was about the best shipwreck I ever been in, as far as living conditions were concerned." Captain Francis Seman, Interview, 1960

In 1902, 1903, and 1904 the Balclutha was chartered by the Alaska Packers Association to supply their salmon canneries. On the morning of May 16, 1904 the Balclutha ran hard aground on a sand off Queen Island, south of Kodiak. She took a heavy list and seemed about to capsize. The fishermen broke into the stores and got drunk. The Chinese cannery hands were locked below decks in near panic. All hands, however, finally got safely ashore.

When it became clear that the Balclutha might be salvaged, the Packhouse at Allitok bought her as she lay for \$500. Her cargo was removed, the yards went down, and timber and cement patches were placed in the holes. In July the Balclutha was pulled off and towed to Allitok. An attempt to sail her south was abandoned due to heavy leaks, and she was put back to Allitok for the winter.

In 1905 a salvage crew from San Francisco arrived to find the Balclutha once again aground, having dragged her mooring during the winter. After a difficult struggle, the holes were again patched and the ship was refloated in July. The Balclutha sailed to San Francisco, and was hauled for permanent repair. For \$500 the Packers bought a fine ship which was to serve the well for the next twenty-five years.



IN 1904 THE BALCLUTHA, UNDER CHARTER TO THE ALASKA PACKERS ASSOCIATION, WAS WRECKED IN ALASKA. THE PACKERS BOUGHT HER AND WERE ABLE TO MAKE REPAIRS.



Tweendeck Panel

Transitional Group

T21- CHARTER AND WRECK (30" x 40")

Title

T21-1 THE BALCLUTHA SHIPWRECKED

Lead

T21-2 In 1904 the *Balclutha*, under charter to the Alaska Packers Association, was wrecked in Alaska. The Packers bought her and were able to make repairs.

Quotation

T21-3 "...I went on the *Balclutha* and made this fatal trip to Alaska. Of course we rescued practically everybody, including the Chinese.... it was about the best shipwreck I ever been in, as far as living conditions were concerned." Captain Francis Sommer, Interview, 1960

Key Label

T21-4 In 1902, 1903, and 1904 the *Balclutha* was chartered by the Alaska Packers Association to supply their salmon canneries. On the morning of May 16, 1904 the *Balclutha* ran aground on a reef off Geese Island, south of Kodiak. She took a heavy list and seemed about to capsize. The fishermen broke into the stores and got drunk. The Chinese cannery hands were locked below decks in near panic. All hands, however, finally got safely ashore.

T21-5 When it became clear that the *Balclutha* might be salvaged, the Packer boss at Alitak bought her as she lay for \$500. Her cargo was removed, the yards sent down, and timber and cement patches

were placed in the holes. In July the *Balclutha* was pulled off and towed to Alitak. An attempt to sail her south was abandoned due to leaks, and she put back to Alitak for the winter.

T21-6 In 1905 a salvage crew from San Francisco arrived to find the *Balclutha* once again aground after dragging her anchors. After a difficult struggle, the holes were again patched and the ship was refloated in July. The *Balclutha* sailed to San Francisco, and was hauled for permanent repairs. For \$500 the Packers bought a fine ship which was to serve them for the next twenty-five years.

Graphics

T21-7 Wreck drawing, screen (G16.40, 428)

T21-8 Map of Geese Island site

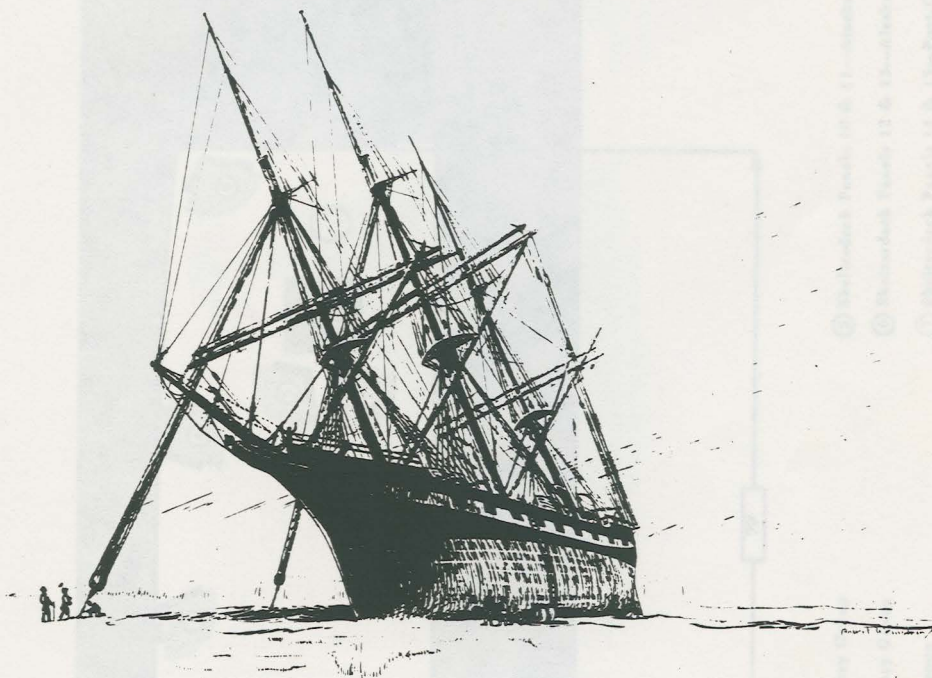
Captions

T21-9 A modern drawing by Robert Weinstein of the *Balclutha* ashore at Alitak. The ship was hove down with heavy tackles to expose her bottom. Rivets were removed from the buckled plates and bolts inserted to draw them together. The work was done under very primitive conditions.

T21-10 Identify Map



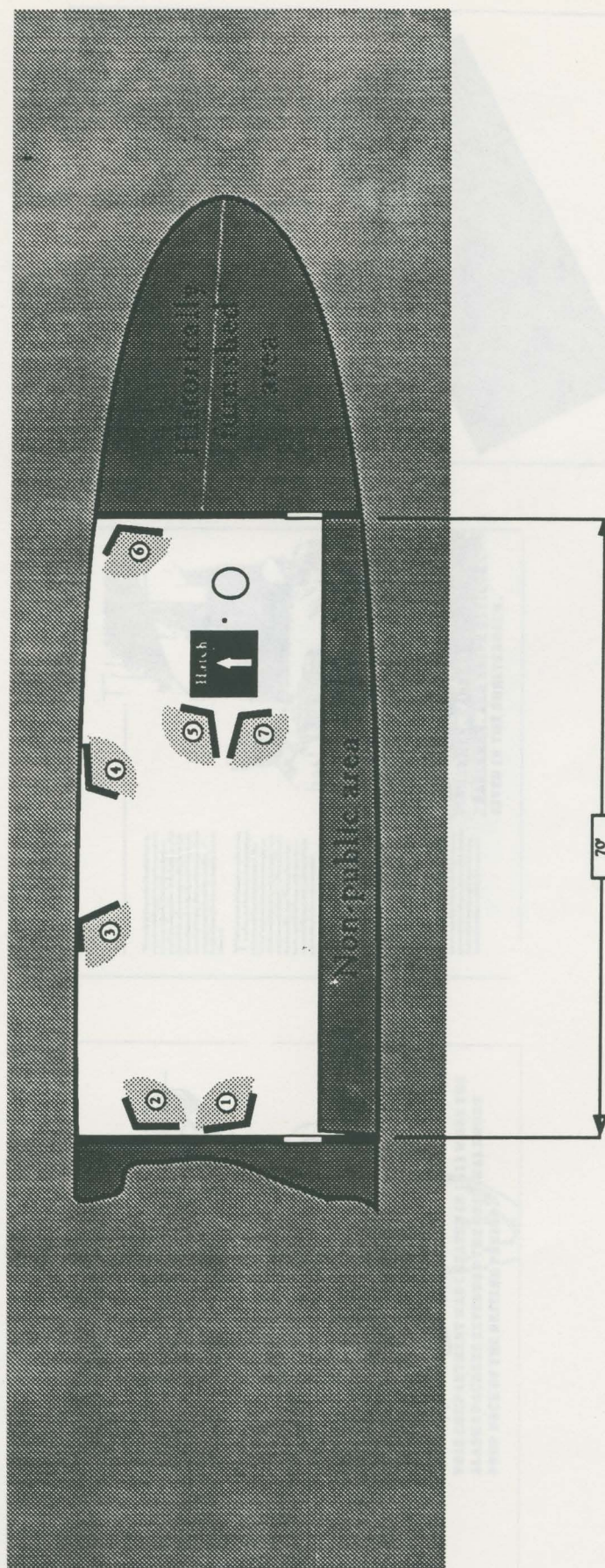
Balclutha Shelterdeck Panels



- ① Shelterdeck Panels 10 to 11 - Shelter Deck
- ② Shelterdeck Panels 12 to 13 - Shelter Deck
- ③ Shelterdeck Panels 14 to 15 - Shelter Deck

- ④ Shelterdeck Panels 16 to 17 - Shelter Deck
- ⑤ Shelterdeck Panels 18 to 19 - Shelter Deck
- ⑥ Shelterdeck Panels 20 to 21 - Shelter Deck
- ⑦ Shelterdeck Panels 22 to 23 - Shelter Deck

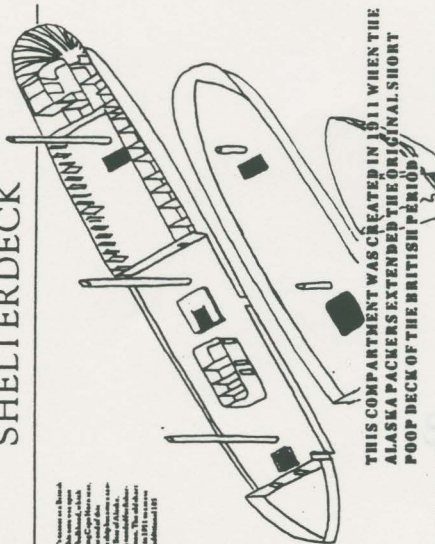
Balclutha Shelterdeck Panels



- ① Shelterdeck Panels 1, 2 & 3—Introductory Group
- ② Shelterdeck Panels 4 & 5—Packer History Group
- ③ Shelterdeck Panels 6 & 7—Star Fleet Group
- ④ Shelterdeck Panels 8 & 9—Star of Alaska History Group
- ⑤ Shelterdeck Panels 10 & 11—Alaska Voyage Group
- ⑥ Shelterdeck Panels 12 & 13—Alaska Operations Group
- ⑦ Shelterdeck Panels 14 & 15—Post-Commercial Group

THE ALASKA PACKERS SHELTERDECK

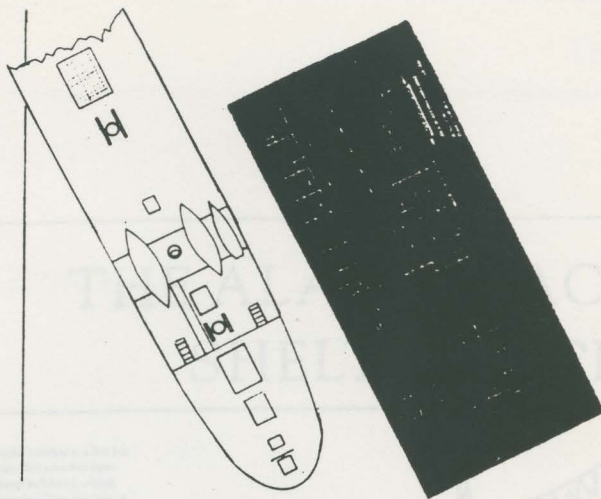
During the Alaska Packers' strike in 1911, the Alaska Packers' Association (APA) built a temporary shelter for the strikers. The shelter was built on the ship's deck and was used by the strikers for shelter and food. The shelter was built by the APA and was used by the strikers for shelter and food. The shelter was built by the APA and was used by the strikers for shelter and food.



THIS COMPARTMENT WAS CREATED IN 1911 WHEN THE ALASKA PACKERS EXTENDED THE ORIGINAL SHORT POOP DECK OF THE BRITISH PERIOD.



FINNISH CANAL TRADERSMAN AND SHIPS OFFICERS LIVED IN THE SHELTERDECK.



Shelterdeck Panels # 1,2, and 3

51- LOCATOR PANEL (30" x 40")

Title

51-1 THE ALASKA PACKERS SHELTERDECK

Lead

51-2 This compartment was created in 1911 when the Alaska Packers Ship Company extended the original short poop deck of the British period.

Key Label

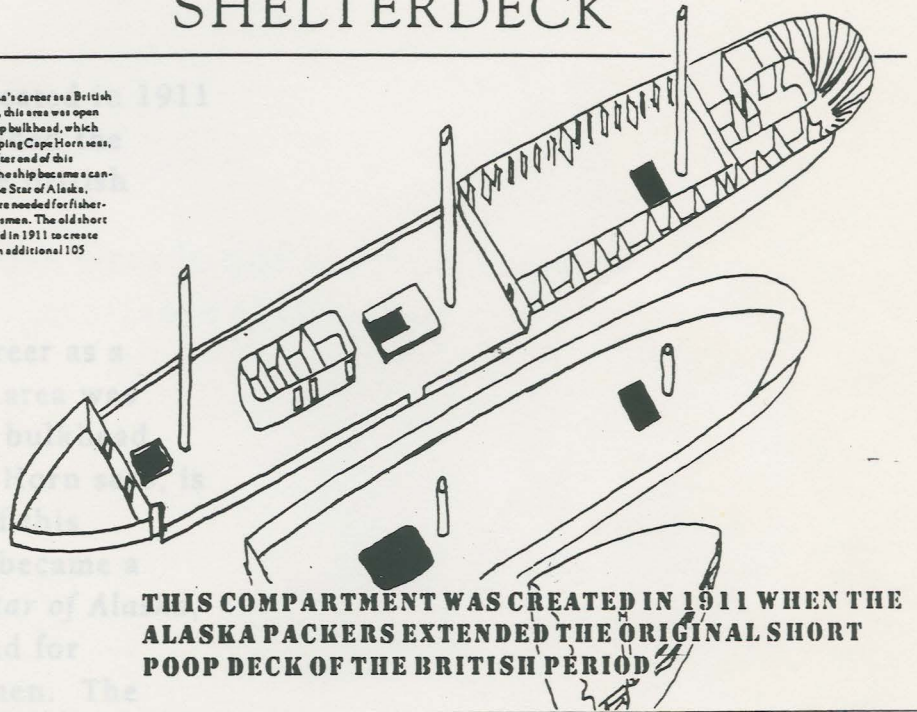
51-3 During the Balclutha's career as a British deepwater carrier, this area was open deck. The original poop bulkhead, which stood the force of Cape Horn seas, is still in place at the after end of this compartment. When the ship became a cannery supply vessel as the Star of Alaska, additional quarters were needed for fishermen and cannery tradesmen. The poop deck was extended in 1911 to create quarters for an additional 105 men.

Graphic

51-4 Simplified plan with "You Are Here" spot and crosshatch or color to highlight area.

THE ALASKA PACKERS SHELTERDECK

During the Balclutha's career as a British deepwater carrier, this area was open deck. The original poop bulkhead, which stood the force of sweeping Cape Horn seas, is still in place at the after end of this compartment. When the ship became a cannery supply vessel as the Star of Alaska, additional quarters were needed for fishermen and cannery tradesmen. The old short poop deck was extended in 1911 to create accommodations for an additional 105 men.



THIS COMPARTMENT WAS CREATED IN 1911 WHEN THE ALASKA PACKERS EXTENDED THE ORIGINAL SHORT POOP DECK OF THE BRITISH PERIOD

Shelterdeck Panel # 1



Shelterdeck Panel

Introductory Group

S1- LOCATOR PANEL (30" x 40")

Title

S1-1 THE ALASKA PACKERS SHELTER-
DECK

Lead

S1-2 This compartment was created in 1911 when the Alaska Packers extended the original short poop deck of the British period.

Key Label

S1-3 During the *Balclutha's* career as a British deepwater carrier, this area was open deck. The original poop bulkhead, which stood the force of Cape Horn seas, is still in place at the after end of this compartment. When the ship became a cannery supply vessel as the *Star of Alaska*, additional quarters were needed for fishermen and cannery tradesmen. The poop deck was extended in 1911 to create quarters for an additional 105 men.

Graphic

S1-4 Simplified plan with "You Are Here" spot and crosshatch or color to highlight area.



In-house Graphic of shelterdeck not available at this time.

Shelterdeck Panel # 2

S2- SHELTERDECK TEXT PANEL (30" x 30")

Lead

S2-1 Fishermen, cannery

ships officers lived

Quotation

S2-2 "We reach the

poop, and step over

women and fisher

bunks, two high

reading by the light

edges of the bunk

men are listenin

the old time wh

the Star of Alaska

Caption

S2-3 The transport

cannery workers

part of the season

"white" workers

mechanists and foremen, and tradesmen

such as carpenters and cooks, all lived aft

under the extended poop. The cannery

hands, mostly Chinese, with some Mexicans

and Filipinos, lived in the forward tween

deck.

S2-4 The largest

the fishermen's fo

to eighty-six men, although the Star of

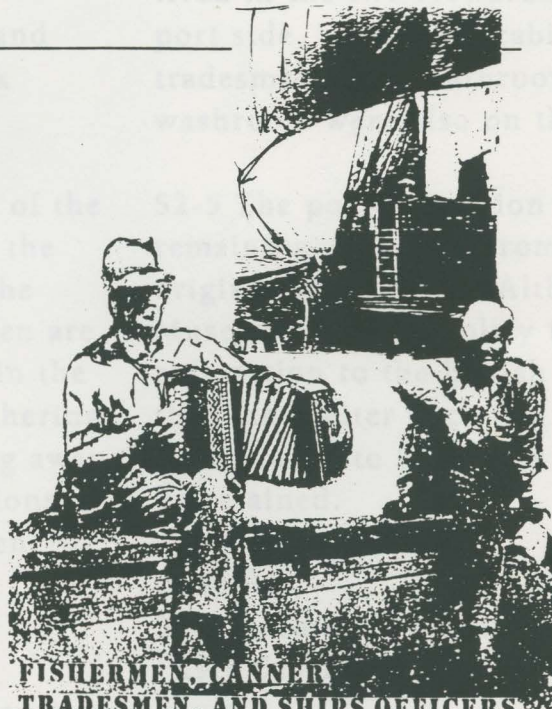
Alaska rarely carried that many. The

"We reach the forward bulkhead of the poop, and step over the coaming into the stamen and fishermen's focle. From it floats the sweet sound of an accordion. In the bunks, two high fore and aft, a few men are reading by the light of candles stuck in the edges of the bunkboards. A small gathering of men are listening to Frank pumping away on his old time windbag..."
Recollections of the Star of Alaska by Captain Johansen

The transport of fishermen and cannery workers to Alaska was an essential part of the seasonal packing operation. The "white" workers, fishermen, cannery machinists and foremen, and tradesmen such as carpenters and cooks, all lived aft under the extended poop. The regular cannery hands, mostly Chinese, with some Mexicans and Filipinos, lived in less desirable quarters in the forward tween deck.

The largest space under the poop was the fishermen's focle. There were bunks for eighty-six men, although the Star of Alaska rarely carried that many. The fishermen served as crew during the voyage and had ready access to the deck through a separate focle entrance. The ship's mates lived in the two forward most cabins on the port side. The other cabins belonged to the tradesmen. Two bathrooms and a washroom were also on the port side.

The poop extension is the only major remaining alteration from the Balclutha's original appearance. Although the Museum's overall policy for the ship is restoration to the British period, it was felt that the shelterdeck is a feature of significance to the ship's history and should be retained.



**FISHERMEN, CANNERY
TRADESMEN, AND SHIPS OFFICERS
LIVED IN THE SHELTERDECK.**

Caption

S2-5 A Fisherman and his squerebox.

S2-6 Looking aft toward the fishermen's focle aboard the Star of Alaska. The starboard entrance, matched the existing door on the port side. Note the large ventilator, now removed.



Shelterdeck Panel

Introductory Group

S2- SHELTERDECK TEXT PANEL (30" x 30")

Lead

S2-1 Fishermen, cannery tradesmen, and ships officers lived in the shelter deck

Quotation

S2-2 "We reach the forward bulkhead of the poop, and step over the coaming into the seamen and fishermen's fo'c's'le. In the bunks, two high fore and aft, a few men are reading by the light of candles stuck in the edges of the bunkboards. A small gathering of men are listening to Frank pumping away on his old time windbag..." Recollections of the *Star of Alaska* by Captain Johansen

Key Label

S2-3 The transport of fishermen and cannery workers to Alaska was an essential part of the seasonal packing operation. The "white" workers -fishermen, cannery machinists and foremen, and tradesmen such as carpenters and cooks- all lived aft under the extended poop. The cannery hands -mostly Chinese, with some Mexicans and Filipinos- lived in the forward tween deck.

S2-4 The largest space under the poop was the fishermen's fo'c's'le. There were bunks for eighty-six men, although the *Star of Alaska* rarely carried that many. The

fishermen served as crew during the voyage and had ready access to the deck through a separate fo'c's'le entrance. The ship's mates lived in the two forwardmost cabins on the port side. The other cabins belonged to the tradesmen. Two bathrooms and a washroom were also on the port side.

S2-5 The poop extension is the only major remaining alteration from the *Balclutha's* original appearance. Although the Museum's overall policy for the ship is restoration to the British period, it was felt that the shelter deck is a feature of significance to the ship's history and should be retained.

Graphic

S2-6 Accordion player aboard A.P.A. vessel (K9.8,017n)

S2-7 Deck of *Star of Alaska*, showing shelter deck (J9.28,512n)

Caption

S2-8 A fisherman and his *squeezebox*.

S2-9 Looking aft toward the fishermen's fo'c's'le aboard the *Star of Alaska*. The starboard entrance matched the existing door on the port side. Note the large ventilator, now removed.





S3- SHELTER DECK GRAPHICS PANEL

(30" x 40")

Graphics:

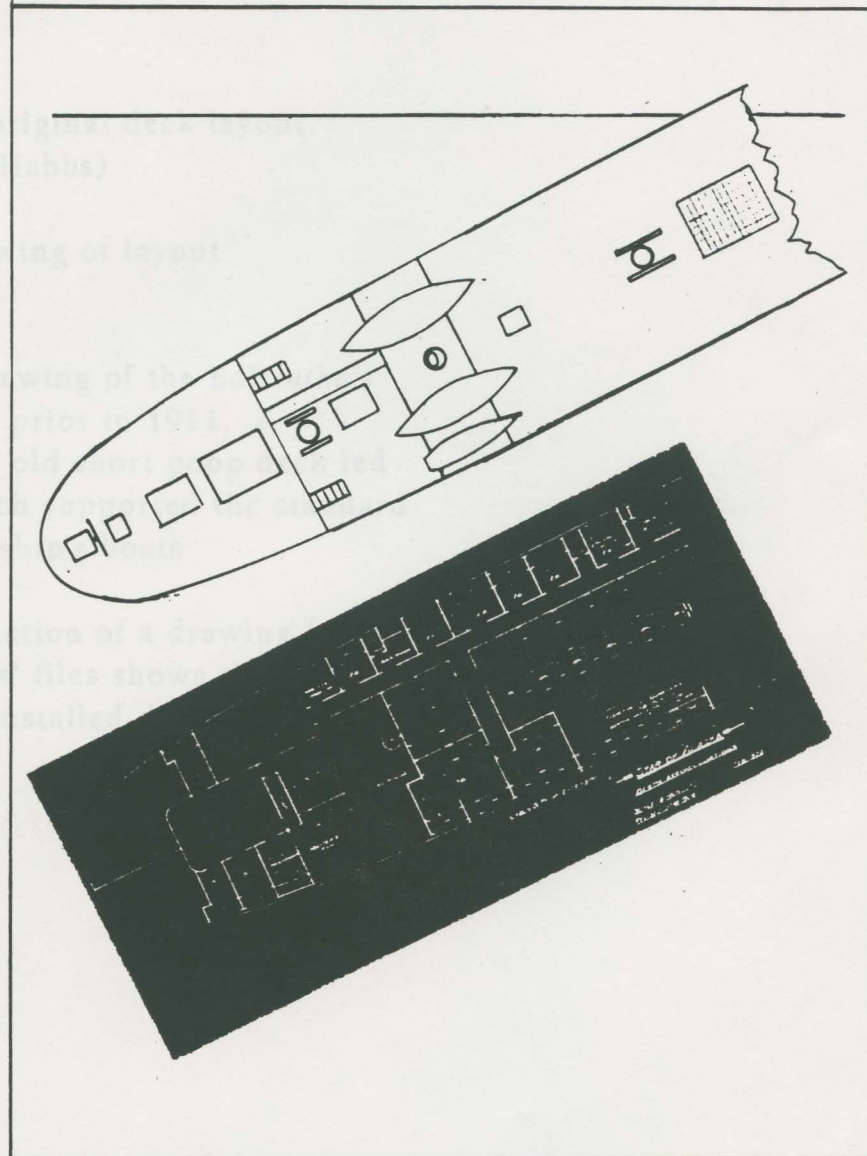
S3-1 Drawing of original deck layout
(Developed from Abbs)

S3-2 Packers' drawing of layout

Captions:

S3-3 A modern drawing of the
deck arrangement of the
walkway from the old
to a platform which
compass and two

S3-4 This reproduction of a drawing
the Alaska Packers' Association
accommodations installed
Alaska period.



Shelterdeck Panel # 3



Shelterdeck Panel

Introductory Group

S3- SHELTER DECK GRAPHICS PANEL (30" x 40")

Graphics

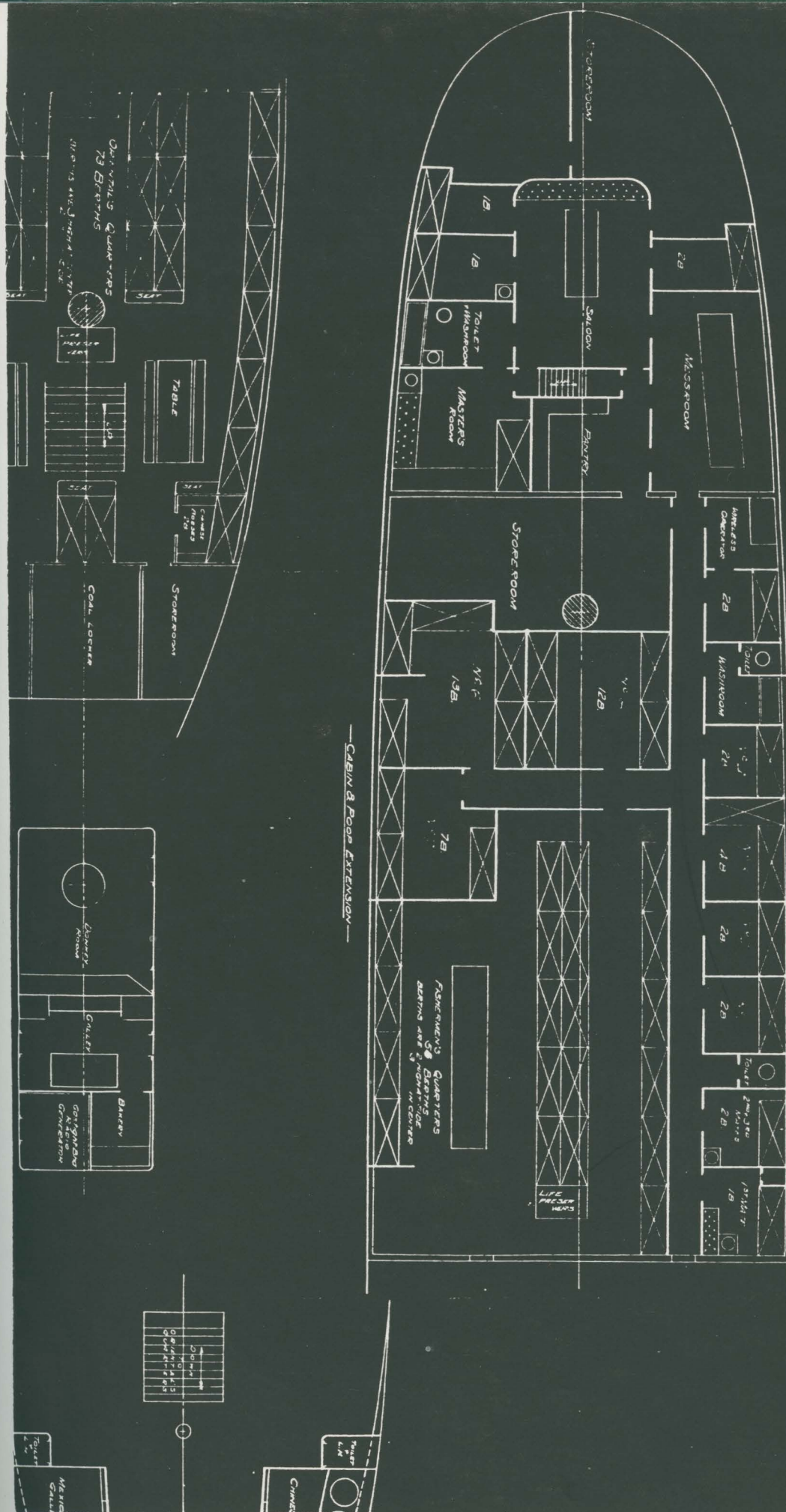
S3-1 Drawing of original deck layout
(Developed from Habbs)

S3-2 Packers' drawing of layout

Captions

S3-3 A modern drawing of the *Balclutha's* deck arrangement prior to 1911. A walkway from the old short poop deck led to a platform which supported the standard compass and two ship's boats

S3-4 This reproduction of a drawing from the Alaska Packers' files shows the accommodations installed during the *Star of Alaska* period.



THE ALASKA PACKERS ASSOCIATION



The Alaska Packers Association was organized in 1909 by the fishermen of Alaska. The industry has since developed as an important source of food for the international market in the 1880s.



THE ALASKA PACKERS COMBINED INDEPENDENT CANNERS TO FORM THE LARGEST COMPANY IN THE SALMON PACKING BUSINESS.

THE ALASKA PACKERS ASSOCIATION

The Alaska Packers Association was organized in 1909 by the fishermen of Alaska. The industry has since developed as an important source of food for the international market in the 1880s.

THE VAST RUNS OF ALASKAN SALMON WERE DEVELOPED AS AN IMPORTANT SOURCE OF FOOD FOR THE INTERNATIONAL MARKET IN THE 1880S

THE ALASKA PACKERS ASSOCIATION

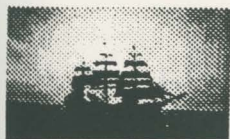
The Alaska Packers Association was incorporated at San Francisco in February of 1893. The Association, combining nineteen firms operating twenty-nine salmon canneries, was formed to control the overproduction of canned salmon. The Packers immediately shut down all but nine canneries, keeping some others in reserve. By 1897 the A.P.A. operated seventeen canneries and produced three-quarters of the total Alaskan pack.

Alaskan salmon canneries operated only from late Spring until late August. All supplies for a season's operations and all of the fishermen and cannery workers had to be shipped North each year, and the men returned with the season's pack. Transport was a decisive factor in the industry. The Alaskan salmon runs were vast and the fish easily caught. The major problem was maintaining an industrial facility in the wilds of the Alaskan Territory.

In the early years, the Packers chartered "Down-easters," wooden square-riggers built in the North-East. These ships offered good capacity and, with fishermen acting as crew, were cheap to operate. It soon became clear that the Packers should buy their own vessels. Their first ship was purchased in 1893. Over the next five years the A.P.A. bought twelve more Down-easters. Some of these ships were retained into the 1920s, and were among the last of their type in operation.



THE ALASKA PACKERS COMBINED INDEPENDENT CANNERS TO FORM THE LARGEST COMPANY IN THE SALMON PACKING BUSINESS.



Shelterdeck Panel

Packer History Group

S4- THE ALASKA PACKERS (30" x 40")

Title

S4-1 THE ALASKA PACKERS
ASSOCIATION

Lead

S4-2 The Alaska Packers combined independent canners to form the largest company in the salmon packing business.

Key Label

S4-3 The Alaska Packers Association was incorporated at San Francisco in February of 1893. The Association, combining nineteen firms operating twenty-nine salmon canneries, was formed to control the overproduction of canned salmon. The Packers immediately shut down all but nine canneries, keeping some others in reserve. By 1897 the A.P.A. operated seventeen canneries and produced three-quarters of the total Alaskan pack.

S4-4 Alaskan salmon canneries operated only from late Spring until late August. All supplies for a season's operations and all of the fishermen and cannery workers had to be shipped North each year, and the men returned with the season's pack. Transport was a decisive factor in the industry. The Alaskan salmon runs were vast and the fish easily caught. The major problem was maintaining an industrial facility in the wilds of the Alaskan Territory.

S4-5 In the early years, the Packers chartered "Down-easters," wooden square-

riggers built in the North-East. These ships offered good capacity and, with fishermen acting as crew, were cheap to operate. It soon became clear that the Packers should buy their own vessels. Their first ship was purchased in 1893. Over the next five years the A.P.A. bought twelve more Down-easters. Some of these ships were retained into the 1920s, and were among the last of their type in operation.

Graphics

S4-6 Logo of APA, color screen

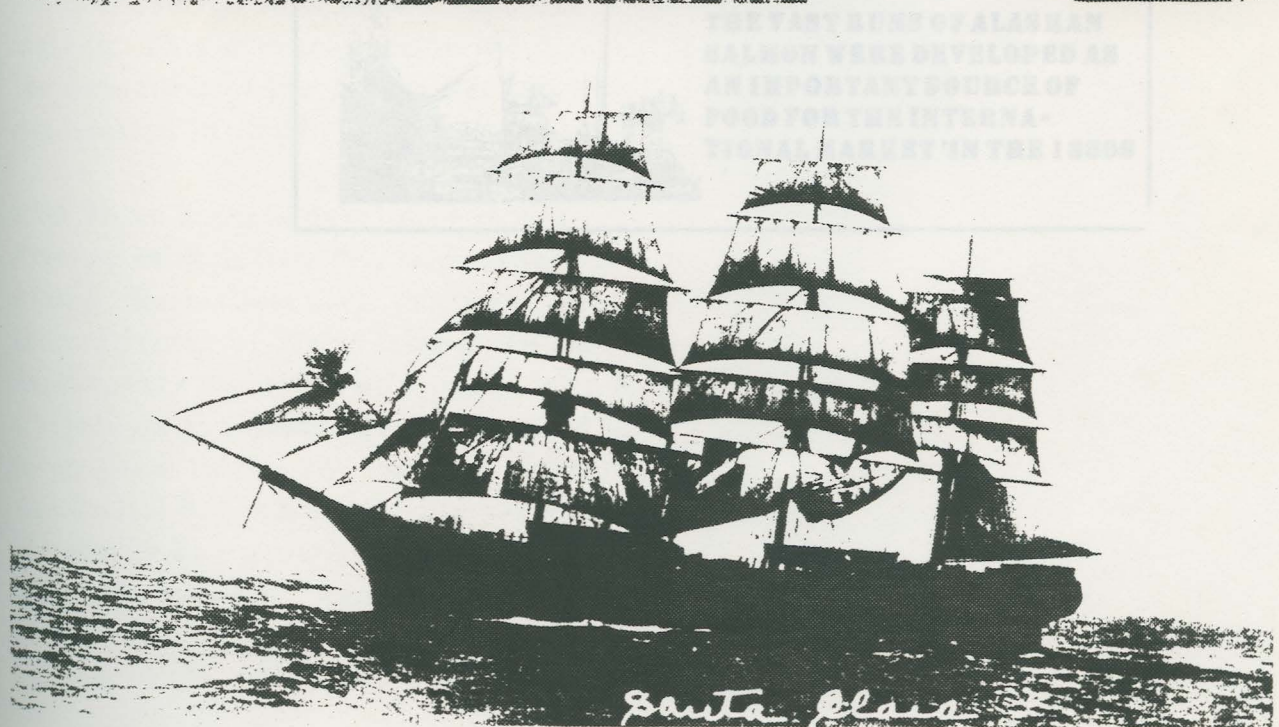
S4-7 The *Santa Clara* underway (J7.6,906n)

S4-8 A.P.A. masters (P300n.)

Captions

S4-9 The *Santa Clara*, built in Maine in 1876, was bought by the Packers in 1896. She was sold for use in the movies in 1926, and ended her days as a fishing barge off the Southern California coast.

S4-10 The Captains of the Alaska Packers fleet, about 1913. Almost all were Scandinavians, who had spent years sailing the West Coast.



Shelterdeck Panel # 5

S3-PACKER MAP AND TEXT PANEL (30" x 30")

Lead

S3-1 The vast runs of Alaska salmon were developed as an important source of food for the international market.

Key Label

S3-2 The first salmon canneries were established in 1878 in Southeastern Alaska. The industry increased gradually until 1887 when ten canneries were in operation. The next two years saw a boom, with seven new canneries in 1888 and twenty more opened in 1889. A sudden flood of canned salmon swamped the market. This overproduction led directly to the formation of the Alaska Packers Association in 1892.

Three centers developed in the Alaskan salmon fishery. In Southeastern Alaska, the earliest area, canneries centered around Prince of Wales Island. In Central Alaska, they clustered on Kodiak Island, at Chignik on the Alaska Peninsula, and in lower Cook Inlet. The last area developed was Bristol Bay, on the Bering Sea north of the Alaska Peninsula. Canneries were sited where the fish ran. Remote from European settlements, they were self-contained villages in the midst of the wilderness.



THE VAST RUNS OF ALASKAN SALMON WERE DEVELOPED AS AN IMPORTANT SOURCE OF FOOD FOR THE INTERNATIONAL MARKET IN THE 1880S

Graphics

S3-4 Small map of Alaska

S3-5 Map of APA cannery sites

S3-6 Gillnet boats in Bristol Bay (G11 23 303)

S3-7 Map

S3-8 Two-man crews set out from the cannery in Bristol Bay. Two-man crews set out from the cannery in Bristol Bay, setting long lengths of drifting gillnet to capture salmon.



Shelterdeck Panel

Packer History Group

S5-PACKER MAP AND TEXT PANEL (30" x 30")

Lead

S5-1 The vast runs of Alaskan salmon were developed as an important source of food for the international market, in the 1880s .

Key Label

S5-2 The first salmon canneries in Alaska were established in 1878 in Southeastern Alaska. The industry increased gradually until 1887 when ten canneries were in operation. The next two years saw a boom, with seven new canneries in 1888 and twenty more opened in 1889. A sudden flood of canned salmon swamped the market. This overproduction led directly to the formation of the Alaska Packers Association in 1892.

S5-3 Three centers developed in the Alaskan salmon fishery. In Southeastern Alaska, the earliest area, canneries centered around Prince of Wales Island. In Central Alaska, they clustered on Kodiak Island, at Chignik on the Alaska Peninsula, and in lower Cook Inlet. The last area developed was Bristol Bay, on the Bering Sea north of the Alaska Peninsula. Canneries were sited where the fish ran. Remote from European settlements, they were self-contained villages in the midst of the wilderness.

Graphics

S5-4 Small map of Alaska

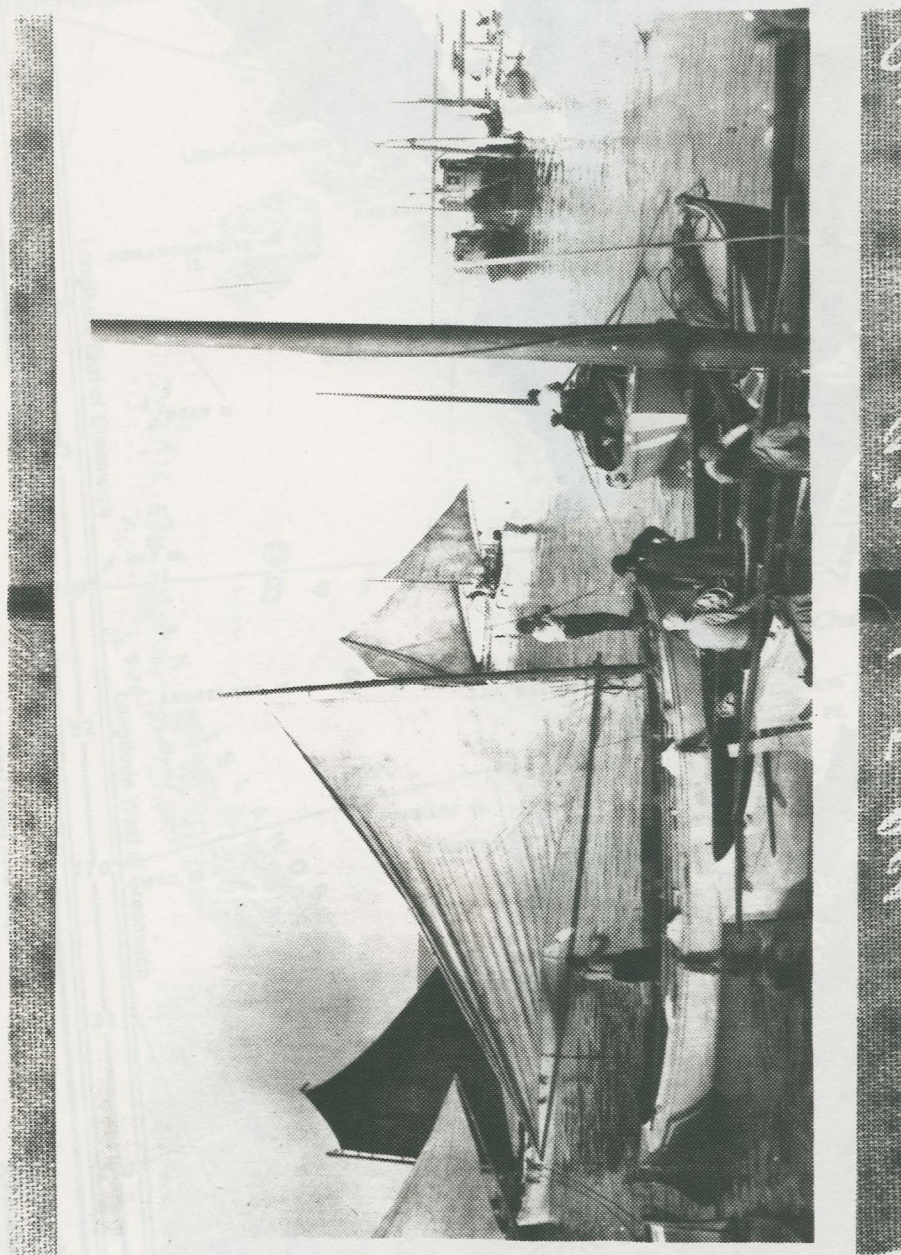
S5-5 Map of APA cannery sites

S8-6 Gillnet boats in Bristol Bay
(G11.23,303)

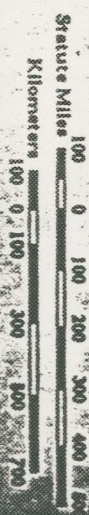
S5-7 Map

Caption

S5-8 Sailing gillnet boats set out from the Alaska Packers Naknek Cannery in Bristol Bay. Two-man crews fished these boats, setting long lengths of drifting gillnet to capture salmon.



Lambert Azimuthal Equal Area Projection
SCALE 1:28,000,000 1 inch = 442 Statute Miles



THE GREAT STAR FLEET

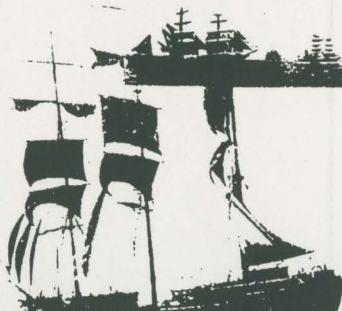
Contemporary science is concerned as first and

A Fox 1900, the Alaska Fox has brought only iron and steel equipment. The fine jewelry and aluminum tools are made. The nature of the salmon trade, with its immediate separation of the fish, and the fishermen to serve as crew, made the use of more sophisticated tools, with others had disappeared from gunboat trade. By the mid-1920s the Fox was the only American operation of a salmon-egg fleet.

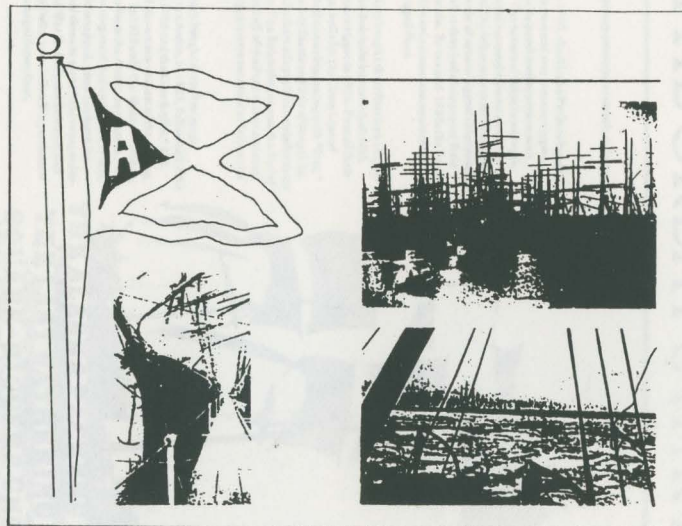
The Fox had bought their first steam ship in 1867. The *Bolshevik* became their fifth name, as *Star of Bengal* in 1904. Four of their steamships went for the Ceylon Line of Boats, had names beginning with "Star," such as *Star of Russia* and *Star of Bengal*. In 1906 the Foxmen added this simple but effective name. The *Bolshevik* became the *Star of Russia*, and all of the Fox her line and their successors were renamed to follow the pattern.

The Packers bought their first large ranch, the Arroyo, in 1923, followed by the burning in 1924 and the Church Office in 1928.

In 1929 women saw the last of the settling swarms. In 1932 only the *Star of Abraham*, under new men from the Arroyo, went north. The others were dispersed during the next years, some to be regarded, some as down in the bargain, and then to make final appearances during World War II. Only the *Star of Abraham* and the *Star of Jude*, now at San Diego, remain from the original fleet.



THE LAST CATHARTIC OF COMMERCIAL
SQUARE - RIGGERS UNDER THE
AMERICAN FLAG AND ONE OF THE LAST
ACTIVE FLEETS IN THE WORLD.



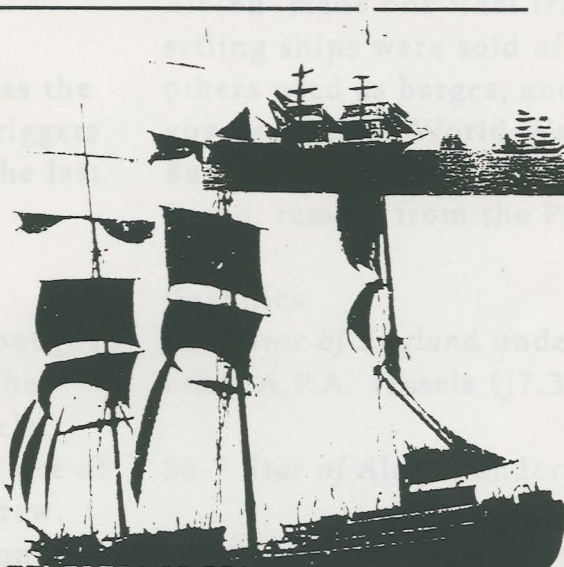
THE GREAT STAR FLEET

Contemporary comment on vessels or fleet as a whole

After 1900, the Alaska Packers bought only iron and steel square-riggers. They finally purchased nineteen such vessels. The nature of the salmon trade, with limited seasonal operation of the ships, and the fishermen to serve as crew, made the use of square-riggers ships practical well after they had disappeared from general trade. By the mid-1930s the Packers were the only American operators of a square-rigged fleet.

The Packers bought their first iron ship in 1901. The *Belchisha* became their fifth metal square-rigger in 1904. Four of their iron ships, built for the Corry Line of Belfast, had names beginning with "Star," such as *Star of Russia* and *Star of Bengal*. In 1906 the Packers adopted this style for their own fleet. The *Belchisha* became the *Star of Alaska*, and all of the Packer iron and steel square-riggers were renamed to follow the pattern.

The Packers bought their first large steamer, the *Arctic*, in 1925, followed by the *Bering* in 1926 and the *Cherkoff* in 1928. The 1929 season saw the last of the sailing voyages. In 1930 only the *Star of Alaska*, under tow from the *Arctic*, went north. The ships were dispersed during the next years, some to be scrapped, some cut down for barges, and three to make final voyages during World War II. Only the *Belchisha* and the *Star of India*, now at San Diego, remain from this magnificent fleet.



THE ALASKA PACKERS STAR FLEET WAS THE LAST GATHERING OF COMMERCIAL SQUARE-RIGGERS UNDER THE AMERICAN FLAG AND ONE OF THE LAST ACTIVE FLEETS IN THE WORLD.

Shelterdeck Panel # 6



Shelterdeck Panel

Star Fleet Group

S6- STAR FLEET TEXT PANEL (30" x 30")

Title

S6-1 THE GREAT STAR FLEET

Lead

S6-2 The Alaska Packers Star Fleet was the last gathering of commercial square-riggers under the American flag and one of the last active fleets in the world.

Key Label

S6-3 After 1900, the Alaska Packers bought only iron and steel square-riggers. They finally purchased nineteen such vessels. The salmon trade, with only seasonal use of the ships, and fishermen serving as crew, made square-riggers ships practical long after they had disappeared from general trade. By the mid-1920s the Packers were the only American operators of a square-rigged fleet.

S6-4 The Packers bought their first iron ship in 1901. The *Balclutha* became their fifth metal square-rigger in 1904. Four of the iron ships, built for the Corry Line of Belfast, had names beginning with "Star," such as *Star of Russia* and *Star of Bengal*. In 1906 the Packers adopted this style for their own fleet. The *Balclutha* became the *Star of Alaska*. All of the Packer iron and steel square-riggers were renamed to follow the pattern.

S6-5 The Packers bought their first steamship in 1925, and two others in 1926 and 1928. The 1929 season saw the last of the sailing voyages. In 1930 the *Star of Alaska* made one final trip under tow. The sailing ships were sold off, some scrapped, others used as barges, and three making voyages during World War II. Only the *Balclutha* and the *Star of India*, now at San Diego, remain from the Packer fleet.

Graphics

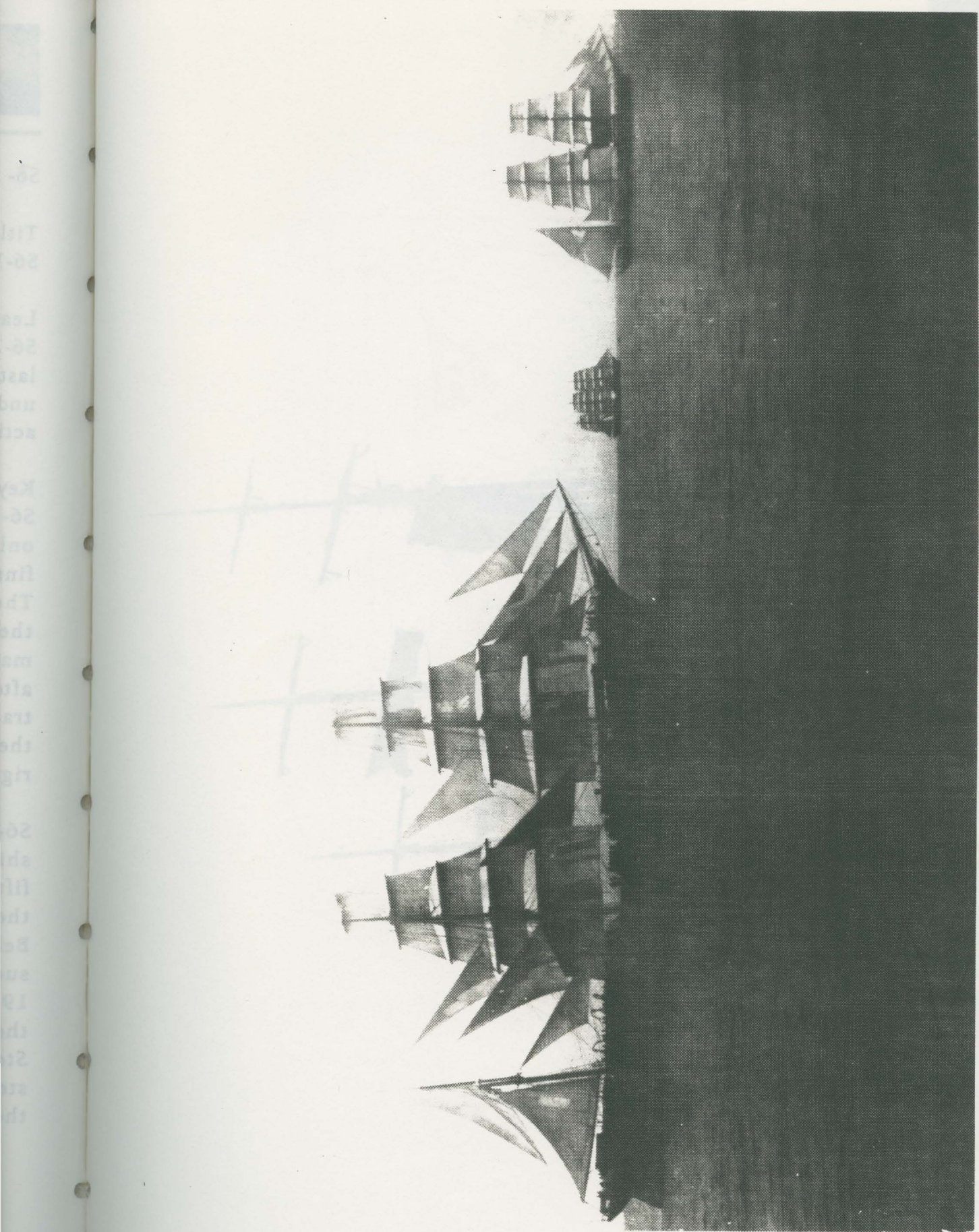
S6-6 *Star of England* underway with two other A.P.A. vessels (J7.31,018n)

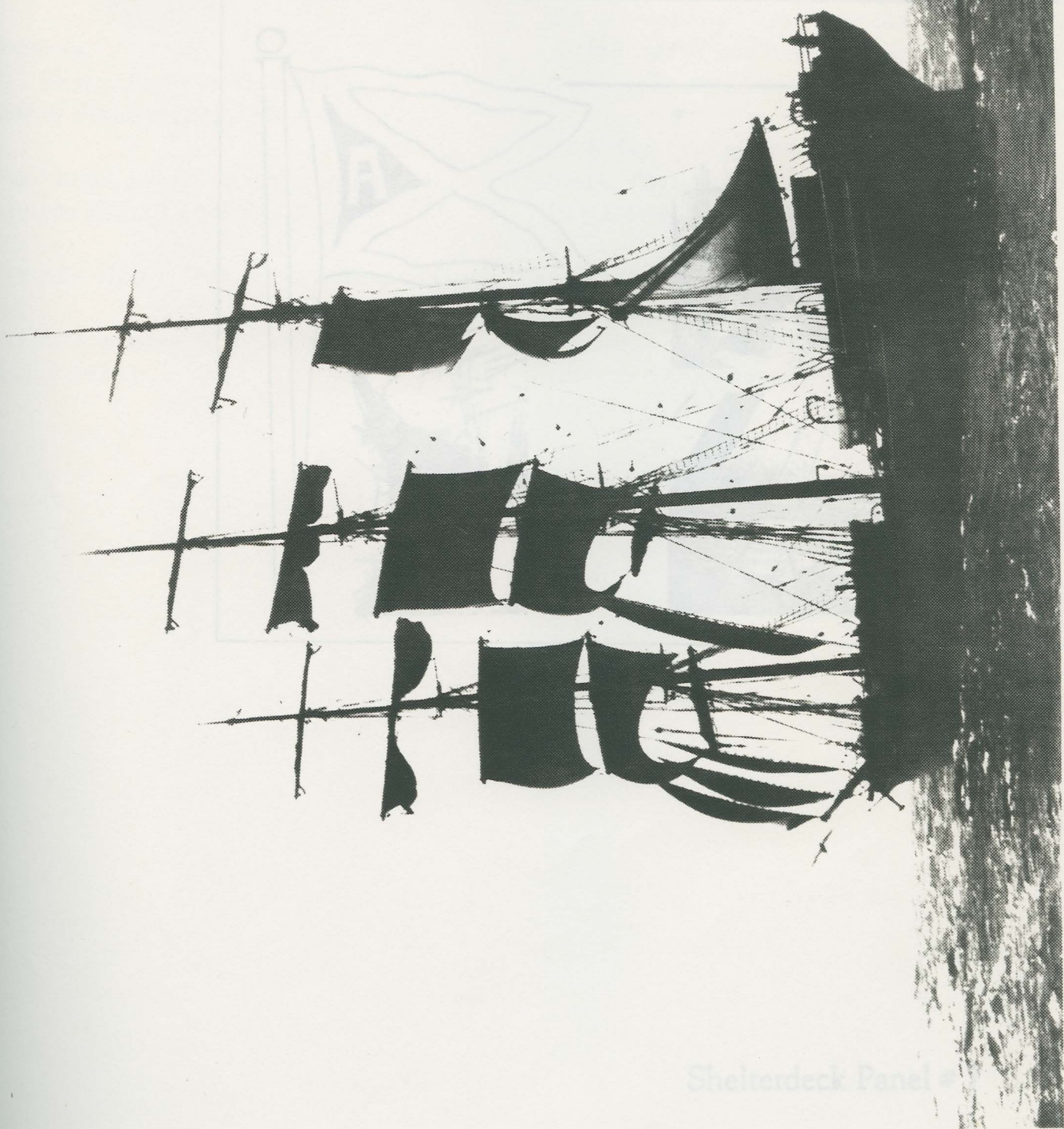
S6-7 *Star of Alaska* underway (J7.28,904n)

Captions

S6-8 The *Star of England*, with two other Star fleet square-riggers off the Alaskan Coast.

S6-9 the *Star of Alaska* off San Francisco.





Shelterdeck Panel

Star Fleet Group

57- STAR FLEET GRAPHIC PANEL

(30" x 40")

Graphics

57-1 Photo, Fleet at Alameda
Star of Finland (B1.255)

57-2 Photo, Star of Alameda
Alameda (B2.28,24n)

57-3 APA House Flag, color

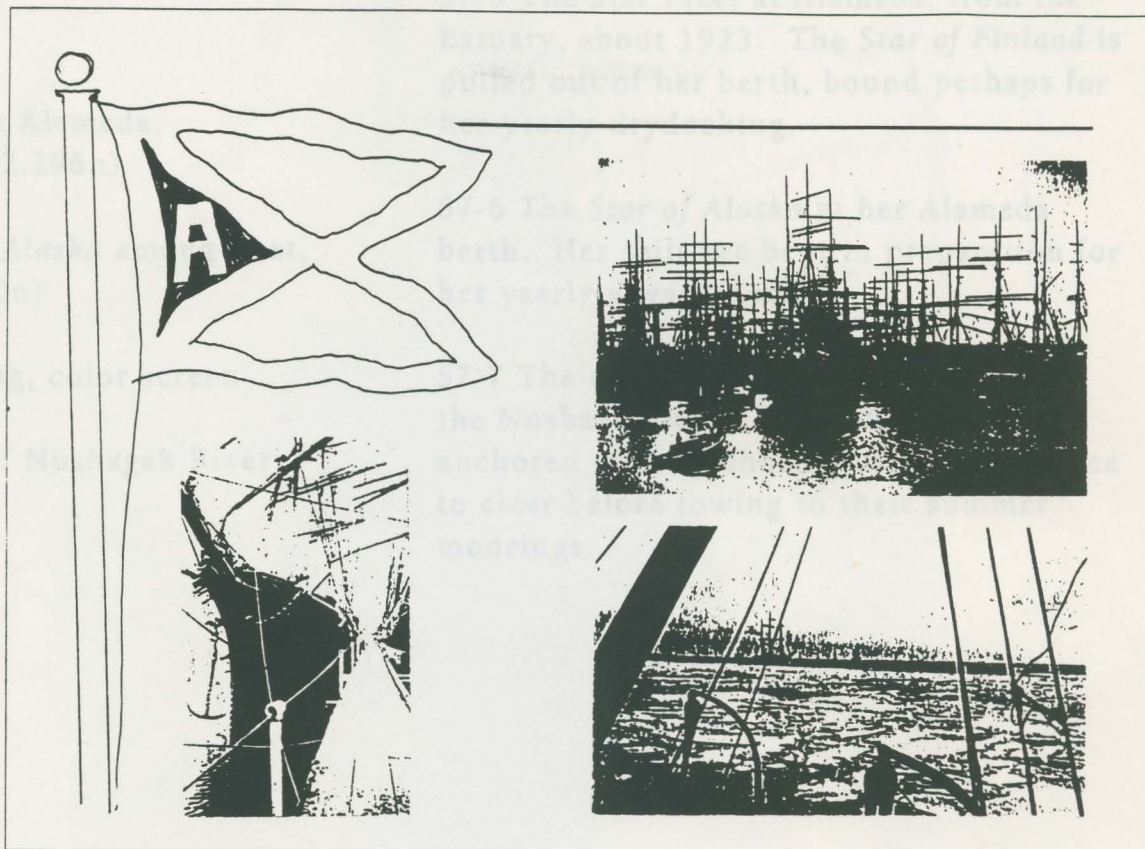
57-4 APA vessels of Navy
(G11.3,842n)

Captions

57-3 The Star Fleet at Alameda, from the Estuary, about 1923. The Star of Finland is pulled out of her berth, bound perhaps for

57-6 The Star of Alameda, her Alameda berth. Her yearly

The
the Navy
anchored
to clear
moorings



Shelterdeck Panel # 7



Shelterdeck Panel

Star Fleet Group

S7- STAR FLEET GRAPHIC PANEL (30" x 40")

Graphics

S7-1 Photo, Fleet at Alameda,
Star of Finland (B12.296n)

S7-2 Photo, *Star of Alaska* among fleet,
Alameda (B2.28,240n)

S7-3 APA House Flag, color screen

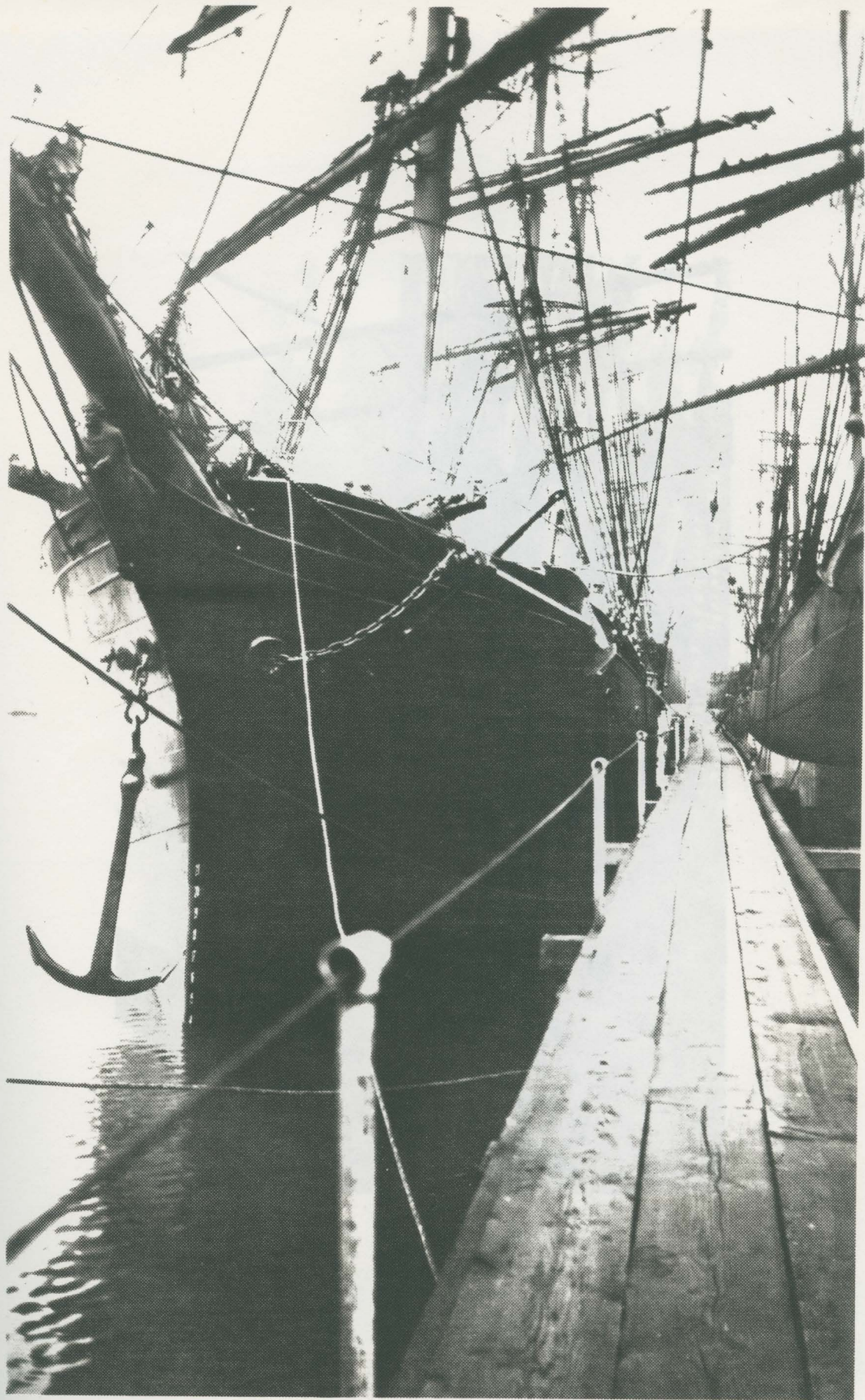
S7-4 APA vessels off Nushagak River
(G11.3,842n)

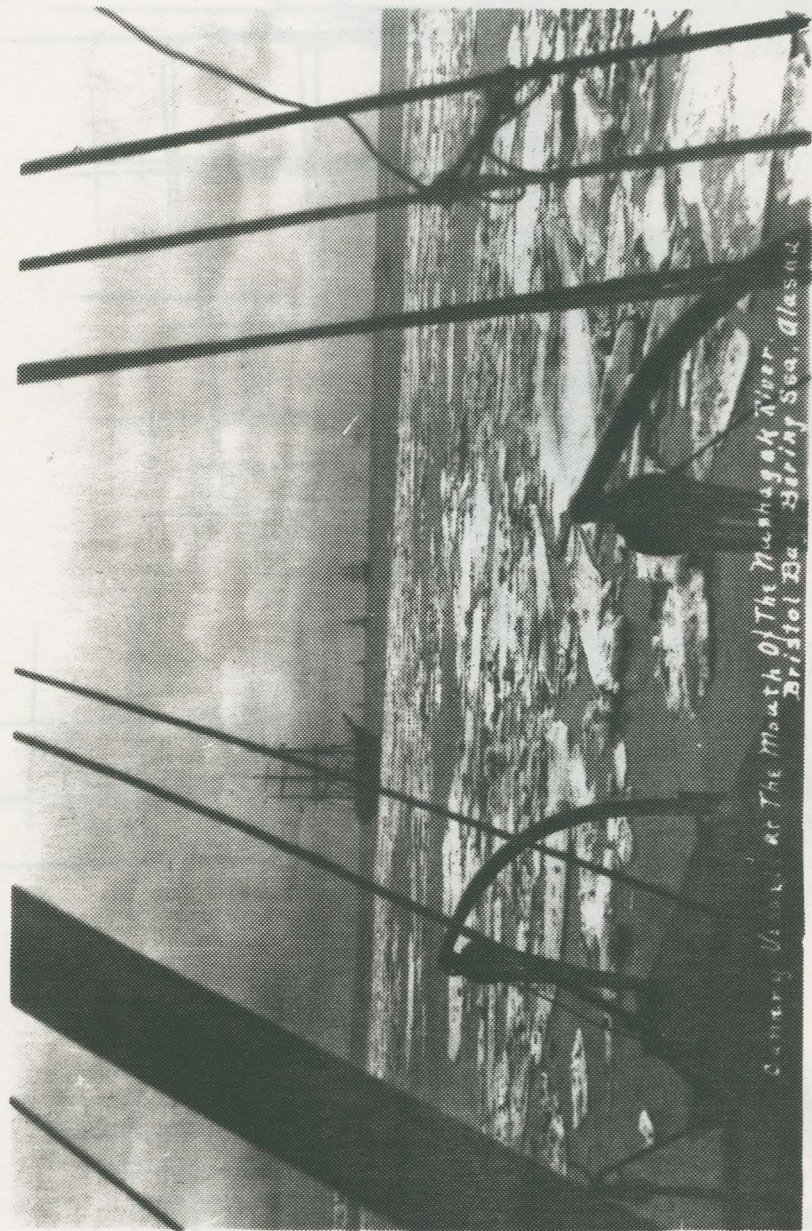
Captions

S7-5 The Star Fleet at Alameda, from the Estuary, about 1923. The *Star of Finland* is pulled out of her berth, bound perhaps for her yearly drydocking.

S7-6 The *Star of Alaska* at her Alameda berth. Her sails are bent in preparation for her yearly voyage north.

S7-7 The cannery fleet in Bristol Bay, off the Nushagak River. The ships are anchored well off shore, waiting for the ice to clear before towing to their summer moorings.





Canary Viewed at The Mouth Of The Nushagak River
Bristol Bay Bering Sea, Alaska



THE CHIGNIK SHIP

"Chignik Cannery was up a figure, which was called Chignik Logos. The ship came out at Anchorage Bay, and that's where we sold our salmon. The ship was very good, but Chignik was beautiful."
—Madame Wagon Heston, Interview, 1978

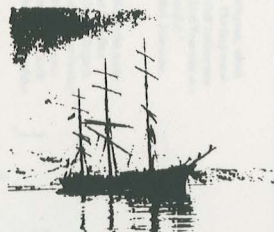
Beginning in 1908, the Alaska Packers Association made weekly five round trips from Seattle to the coast side of Chignik Bay, on the Alaska Peninsula. Most Parker ships were out in the same location year after year. Chignik was one of the last with the same name and with the same of the company.

The four of Alaska Packers Association needed for a season's operation, the place for making men, the "chignik" for wooden cases, and for salmon, salmon, and other goods, gillnets and netting for fish traps. Almost fifty "chignik" salmon, salmon and salmon, and ship's office, located in the same dock were from every week and every month. The volume included the same, located in the same dock. The same and same, the same's "good" of salmon, salmon, salmon about 61,000 cases.

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THROUGHOUT HER CAREER FOR THE ALASKA PACKERS, THE STAR OF ALASKA SERVED THE CANNERY AT CHIGNIK



THE CHIGNIK SHIP

"Chignik Cannery was up a lagoon, which was called Chignik Lagoon. The deep water was at Anchorage Bay, and that's where two other canneries were. You think Yosemite was pretty, but Chignik was beautiful."
 Machinist Wayne Heimbochel, Interview, 1978

Beginning in 1906, the *Star of Alaska* made twenty-five round trips from San Francisco to the remote inlet of Chignik Bay, on the Alaska Peninsula. Most Packer ships were sent to the same location year after year. Officers became familiar both with the site itself and with the needs of the cannery.

The *Star of Alaska* carried everything needed for a season's operations: tin plate for making cans, box "shooks" for wooden cases, coal for cannery boilers, machinery and spare parts, pilings and netting for fish traps. About fifty "whites"—fishermen, foremen and tradesmen, and ship's officers—lived aft. Forward in the tween deck were from sixty to a hundred cannery hands. Provisions included livestock carried in pens on deck. The homeward cargo, the season's "pack" of canned salmon, averaged about 65,000 cases.

The *Star of Alaska* and her sisters spent almost six months each year at the Packers' yard in Alemeda. The Packers kept a crew of seamen, part of the summer fishing gang, at work on the fleet. Each year some major project was undertaken, in addition to routine chipping and painting. The finish of the Packer ships was simple, but the vessels were well looked after and remained strong and sound.



THROUGHOUT HER CAREER FOR THE ALASKA PACKERS, THE STAR OF ALASKA SERVED THE CANNERY AT CHIGNIK



Shelterdeck Panel

Star of Alaska History Group

S8- STAR OF ALASKA AS CHIGNIK SHIP,
TEXT (30" x 30")

Title

S8-1 THE CHIGNIK SHIP

Lead

S8-2 Throughout her career for the Alaska Packers, the *Star of Alaska* served the cannery at Chignik.

Quotation

S8-3 "Chignik Cannery was up a lagoon, which was called Chignik Lagoon. The deep water was at Anchorage Bay, and that's where two other canneries were. You think Yosemite was pretty, but Chignik was beautiful." Machinist Wayne Heinbockel, Interview, 1978

Key Label

S8-4 Beginning in 1906, the *Balclutha* made twenty-five round trips from San Francisco to the remote inlet of Chignik Bay, on the Alaska Peninsula. Most Packer ships were sent to the same location year after year. Officers became familiar both with the site itself and with the needs of the cannery.

S8-5 The *Star of Alaska* carried everything needed for a season's operations -tin plate for making cans, box "shooks" for wooden cases, coal for cannery boilers, machinery and spare parts, pilings and netting for fish traps. About fifty "whites" lived aft-fishermen, foremen and tradesmen, and ship's officers. Forward in the tween deck were from sixty to one hundred cannery

hands. Provisions included livestock carried in pens on deck. The homeward cargo, the season's "pack" of canned salmon, averaged about 65,000 cases.

S8-6 The *Star of Alaska* and her sisters spent almost six months each year at the Packers yard in Alameda. The Packers kept a crew of men at work on the fleet. Each year some major project was undertaken, in addition to routine chipping and painting. The finish of the Packer ships was simple, but the vessels were well looked after and remained strong and sound.

Graphic

S8-7 Loading Salmon on *Star of Alaska*
(G12.797n)

Captions

S8-8 At season's end, cases of salmon are loaded aboard the *Star of Alaska* from a lighter alongside.

Shelterdeck Panel # 9

Shelterdeck Panel

Star of Alaska History Group

S9- STAR OF ALASKA AS CHIGNIK SHIP,
GRAPHICS (30" x 10")

Captions

Title

S9-1 STAR OF ALASKA AS CHIGNIK SHIP

Graphics

S9-2 Photo, arrival at Chignik (G6.40.253n)

S9-3 Photo, unloading at Chignik (G12.799n)

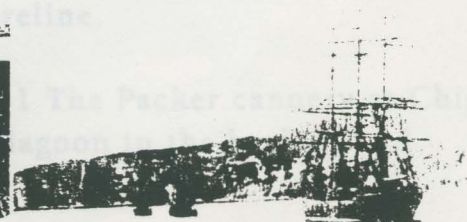
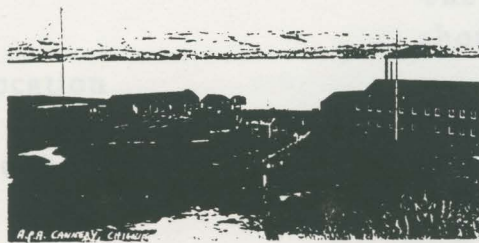
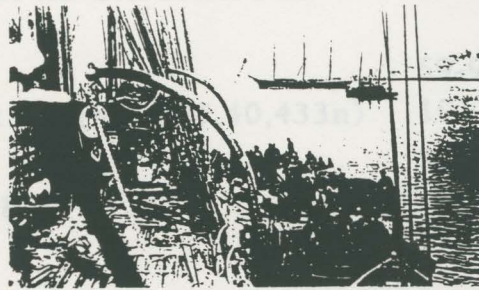
S9-4 Photo, moored at Chignik (G6.40.253n)

S9-5 Map

S9-6 Map, detail of Chignik

S9-7 Photo, Chignik

Star of Alaska enters Chignik Bay. This is before 1911, when the poop deck was extended.



Shelterdeck Panel # 9



Shelterdeck Panel

Star of Alaska History Group

S9- STAR OF ALASKA AS CHIGNIK SHIP,
GRAPHICS (30" x 40")

Title

S9-1 STAR OF ALASKA AS CHIGNIK SHIP

Graphics

S9-2 Photo, arrival at Chignik (G5.40,433n)

S9-3 Photo, unloading at Chignik
(G12.799n)

S9-4 Photo, moored (G6.40,253n)

S9-5 Map

S9-6 Map, detail of location

S9-7 Photo, Chignik Cannery (P79-078n)

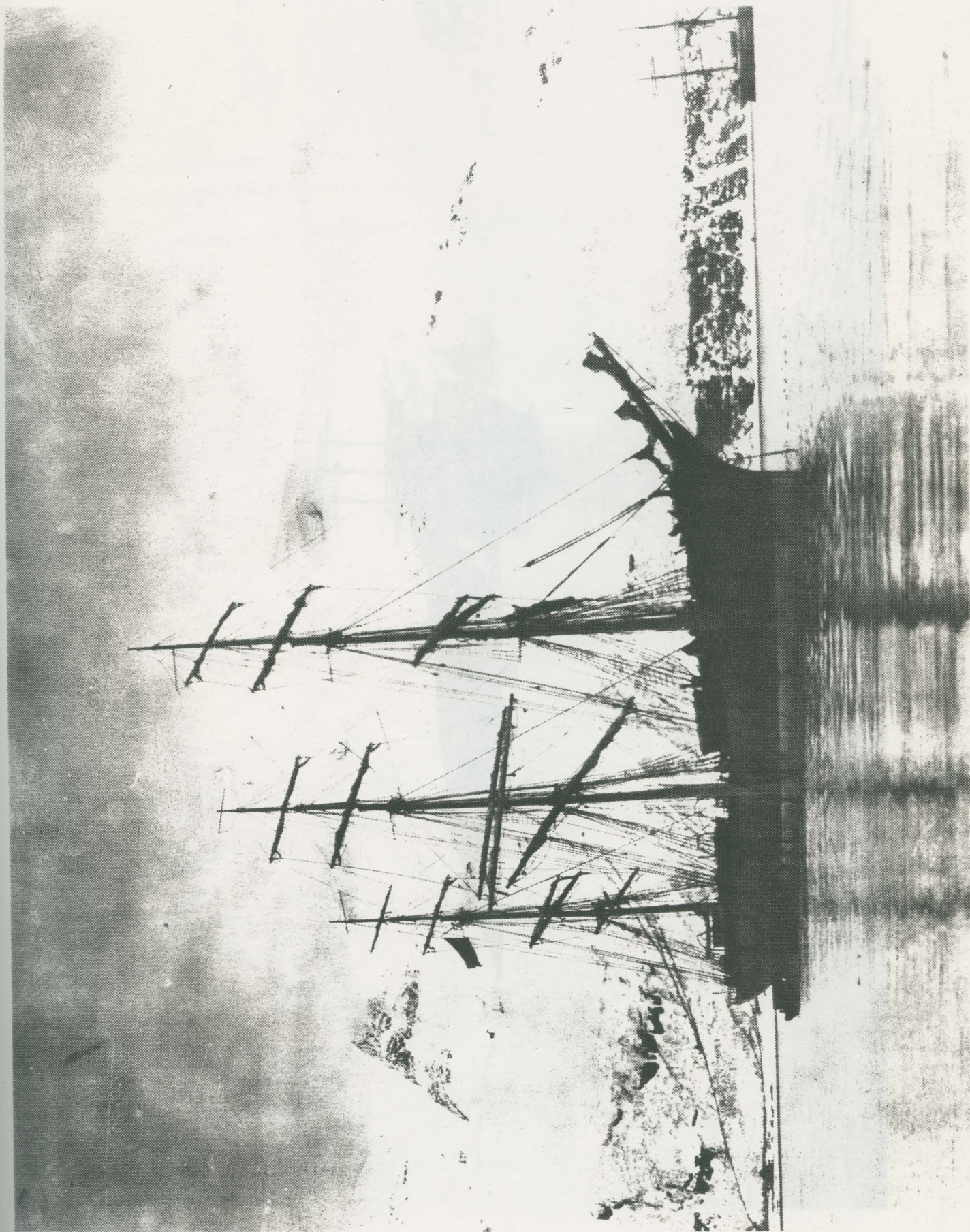
Captions

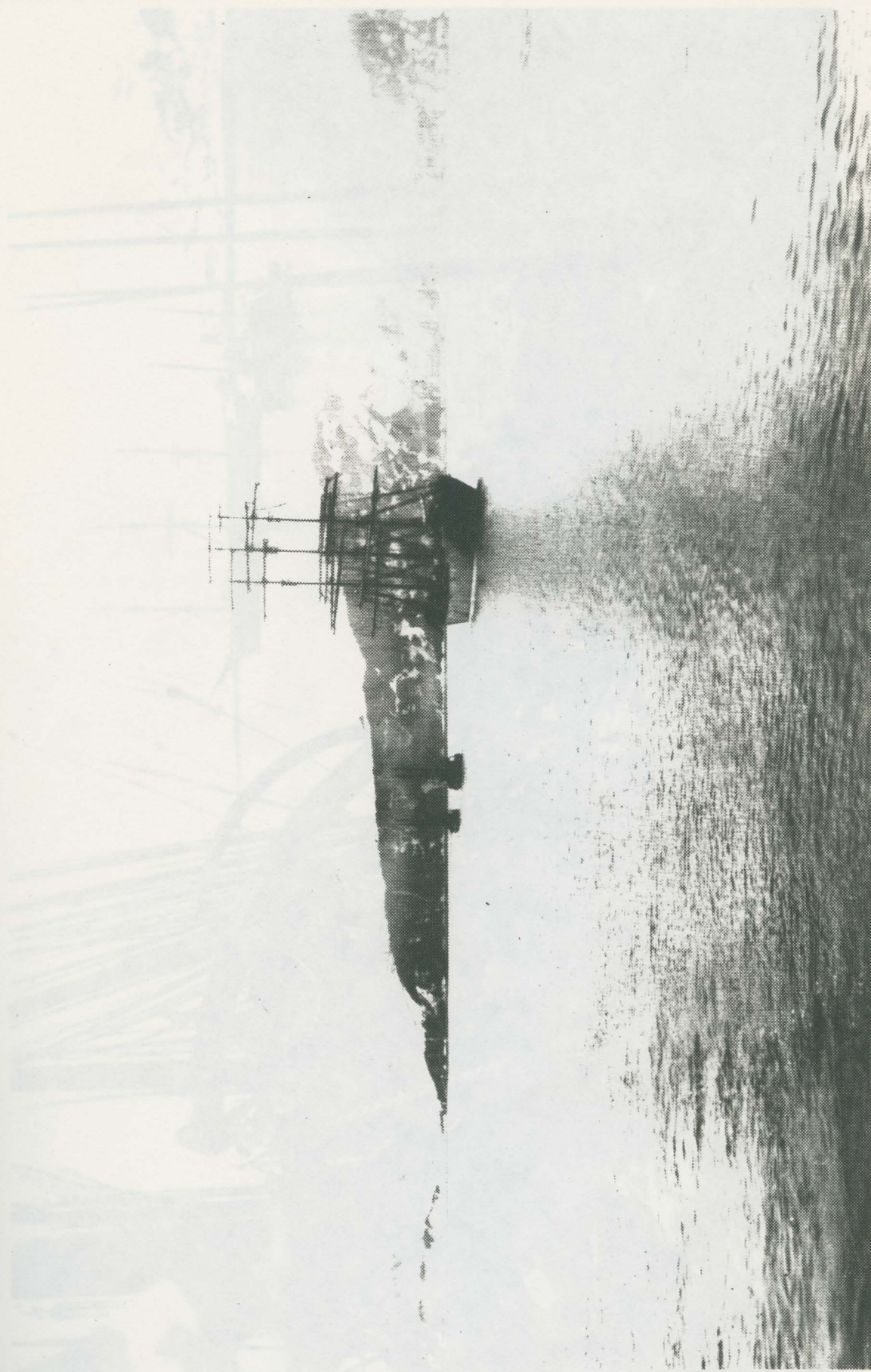
S9-8 Under tow, with all sails furled, the *Star of Alaska* enters Chignik Bay. This is before 1911, when the poop deck was extended.

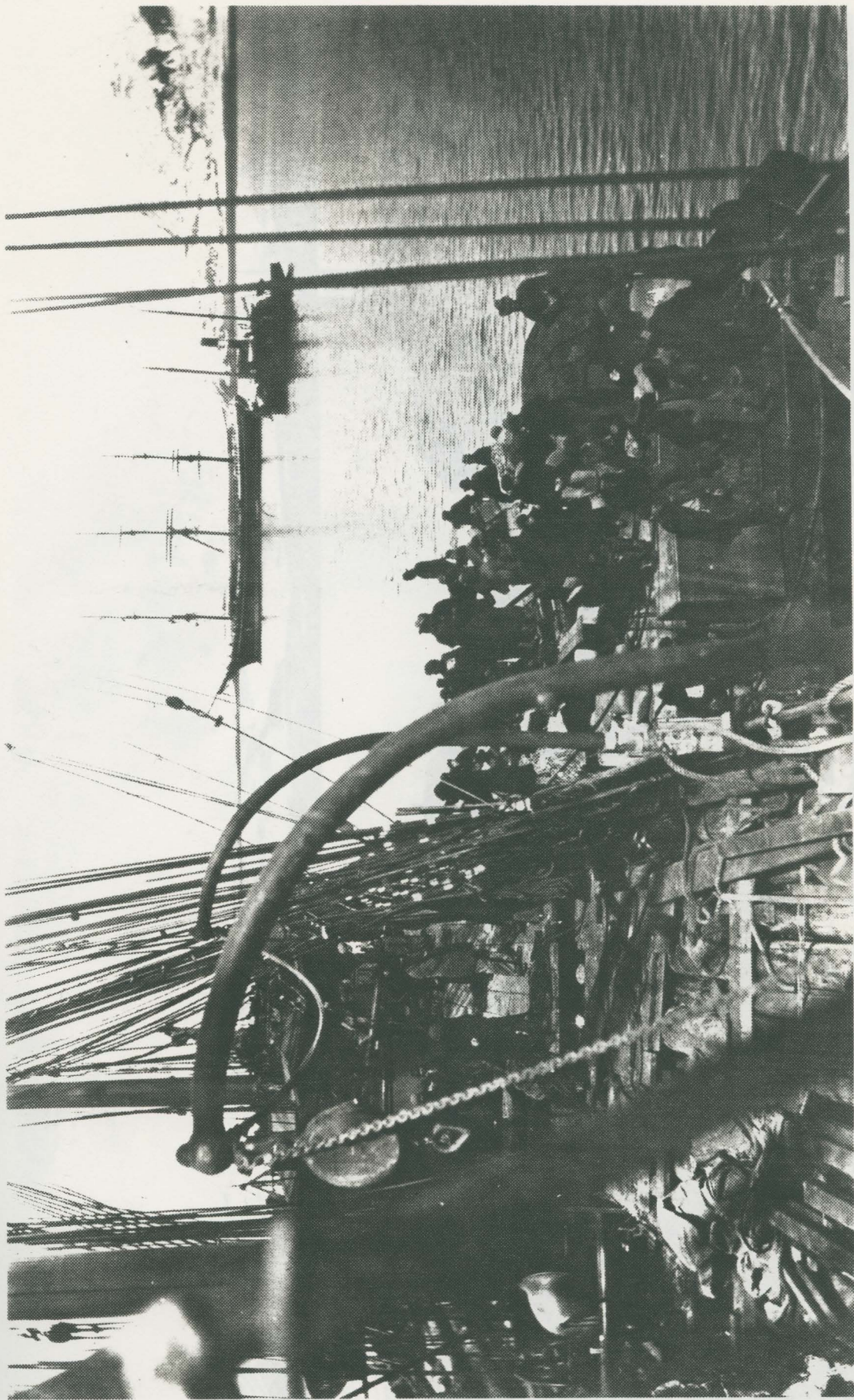
S9-9 The *Star of Alaska* at Chignik, prior to 1911. A lighter loaded with men and equipment is about ready to go ashore. The ship carries a deckload of pilings, to be used for fish traps.

S9-10 The ship moored at Anchorage Bay. This is probably shortly after her arrival. The sails are still bent and snow covers the shoreline.

S9-11 The Packer cannery at Chignik, with the lagoon in the background.









Shelterdeck Panels # 10 and 11

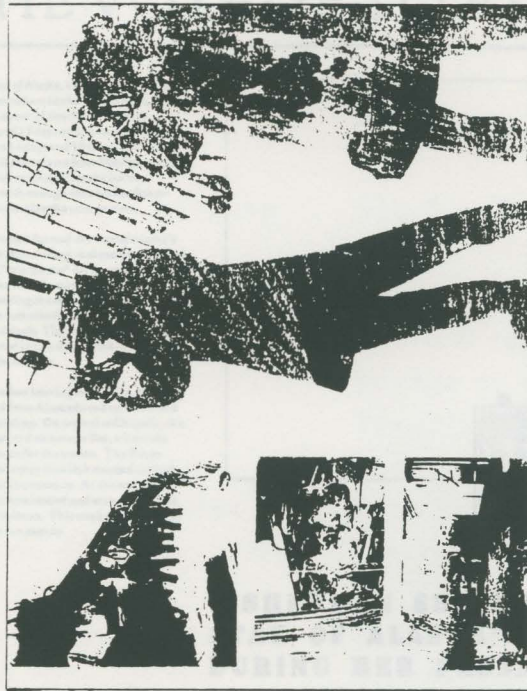
THE VOYAGE TO ALASKA

The Star of Alaska, a 100-ton schooner, is the largest of the fleet. She was built in 1908 and has a crew of 11. She is the only ship in the fleet that has a full-time crew. She is the only ship in the fleet that has a full-time crew. She is the only ship in the fleet that has a full-time crew.

The Star of Alaska is the largest of the fleet. She is the only ship in the fleet that has a full-time crew. She is the only ship in the fleet that has a full-time crew. She is the only ship in the fleet that has a full-time crew.

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FISHERMEN SERVED AS THE
STAR OF ALASKA'S CREW
DURING HER PASSAGES
BETWEEN SAN FRANCISCO
AND CHIGNIK.



S10- THE VOYAGE TO ALASKA TEXT AND
MAP (30" x 30")

and shifted it ashore at the cannery. At the
end of the season the men loaded and
stowed the pack of canned salmon. This
part of the run money.

THE VOYAGE TO ALASKA

The *Star of Alaska*, known as one of the fastest sailers in the Packer fleet, averaged about 22 days for the trip to Chignik and 15 days on the return. Her best times were 14 days and 10 days. The ship's early April departures from San Francisco brought her to Chignik as the ice was clearing, with enough time for the fishermen to prepare for the salmon run.

The fishermen formed the *Star of Alaska*'s crew. The men worked in three watches and were paid "run money" for the trip. Some of the men, usually former sailors, got extra pay for steering the ship and handling sail aloft. The rest stood lookout, and worked around the deck. The cannery hands were not involved in the ship's work and were not paid for the trip.

Shortly before leaving for Alaska, the ship was moved from Alameda to San Francisco for final loading. On arrival at Chignik, she was moored at Anchorage Bay, where she would remain for the season. The fishermen loaded cargo into lighters and shifted it ashore at the cannery. At the end of the season the men loaded and stowed the pack of canned salmon. This work was paid for as part of the run money.

**FISHERMEN SERVED AS THE
STAR OF ALASKA'S CREW
DURING HER PASSAGES
BETWEEN SAN FRANCISCO
AND CHIGNIK.**





Shelterdeck Panel

Alaskan Voyage Group

S10- THE VOYAGE TO ALASKA TEXT AND MAP (30" x 30")

Title

S10-1 THE VOYAGE TO ALASKA

Lead

S10-2 Fishermen served as the *Star of Alaska's* crew during her passages between San Francisco and Chignik.

Key Text

S10-3 The *Star of Alaska*, known as one of the fastest sailors in the Packer fleet, averaged about 22 days for the trip to Chignik and 15 days on the return. Her best times were 14 days and 10 days. The ships early April departures from San Francisco brought her to Chignik as the ice was clearing, with enough time for the fishermen to prepare for the salmon runs.

S10-4 The fishermen formed the *Star of Alaska's* crew. The men worked in three watches and were paid "run money" for the trip. Some of the men, usually former sailors, got extra pay for steering the ship and handling sail aloft. The rest stood lookout, and worked around the deck. The cannery hands were not involved in the ship's work and were not paid for the trip.

S10-5 Shortly before leaving for Alaska, the ship was moved from Alameda to San Francisco for final loading. On arrival at Chignik, she was moored at Anchorage Bay, where she would remain for the season. The fishermen loaded cargo into lighters

and shifted it ashore at the cannery. At the end of the season the men loaded and stowed the pack of canned salmon. This work was paid for as part of the run money.

Graphics

S10-6 A.P.A. Route Map

S10-7 Color Photo, Gordon Grant painting.

Captions

S10-8 A reproduction of a map showing a voyage by the *Star of Holland* from San Francisco to Bristol Bay. Packer captains submitted these maps to the company after each trip. Note that the ship traveled far to the West before heading North.

S10-9 A reproduction of a painting of the *Star of Alaska* by well-known marine artist Gordon Grant. Grant gave the painting to Captain Bertoneccini after making a voyage in the ship in 1926.



Color reproduction of Gordon Grant painting
not available at this time.

S11-VOYAGE TO ALASKA. GRAPHICS

S11-6 Heavy weather on the trip north.

PANEL (

Graphics
S11-2 Photo on board, Chukotka coast on
maindeck (22,658a)

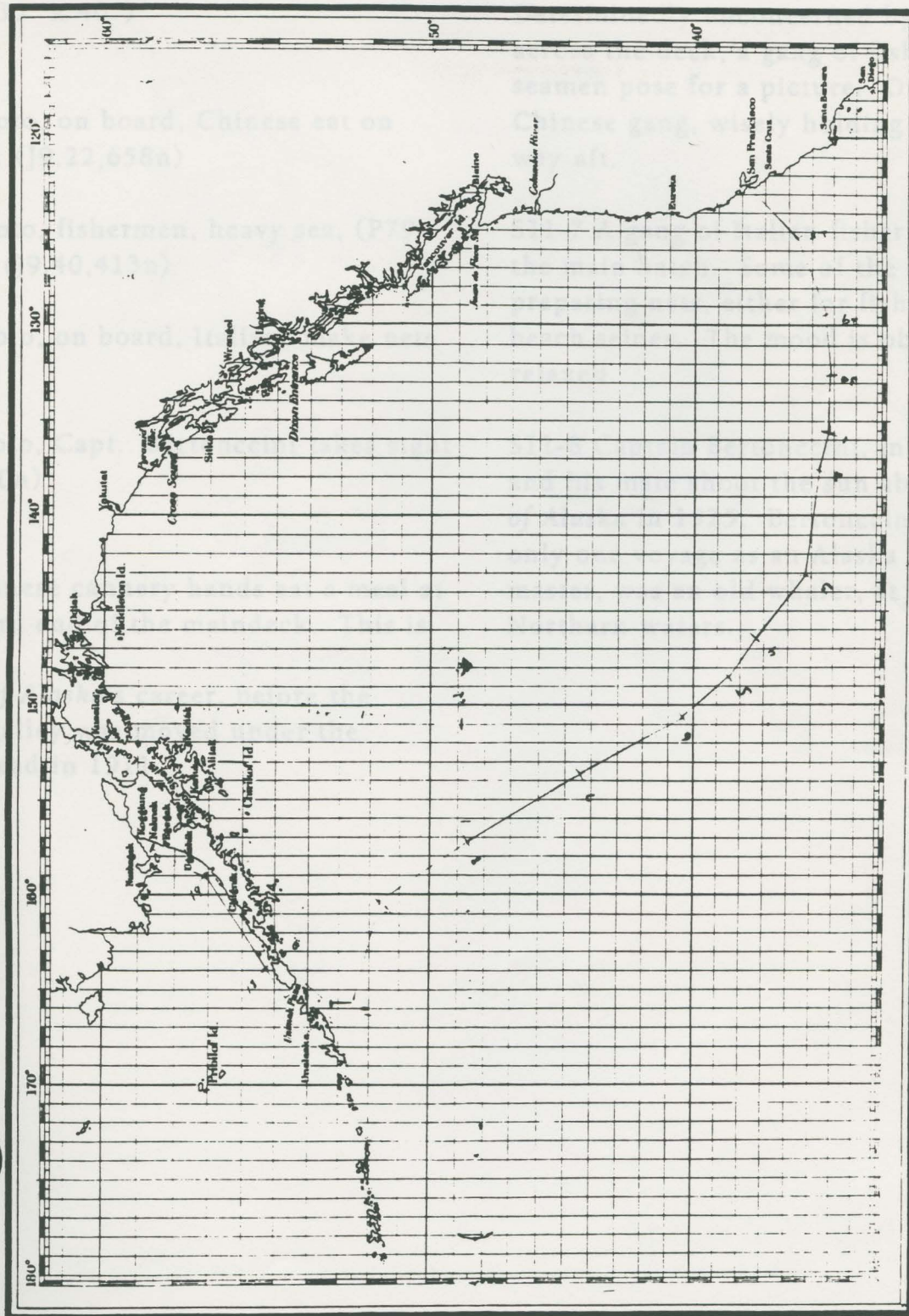
S11-2 Photo of fishermen, heavy sea, (P
078a) (20,413a)

S11-3 Photo on board, 1
(19,260a)

S11-3 Photo of
(19,260a)

TRACK CHART

OF
Star of Holland
NAME OF VESSEL
VOYAGE FROM San Francisco TO Chukotka



DATE OF DEPARTURE April 27 1920

DATE OF ARRIVAL May 20 1920

John Wideman

MASTER



Shelterdeck Panel

Alaska Voyage Group

S11- VOYAGE TO ALASKA, GRAPHICS PANEL (30" x 40")

Graphics

S11-1 Photo, on board, Chinese eat on maindeck (J9.22,658n)

S11-2 Photo, fishermen, heavy sea, (P79-078n) or (J9.40,413n)

S11-3 Photo, on board, Italians make nets (J9.260n)

S11-4 Photo, Capt. Bertonccini takes sight (J9.28,440n)

Captions

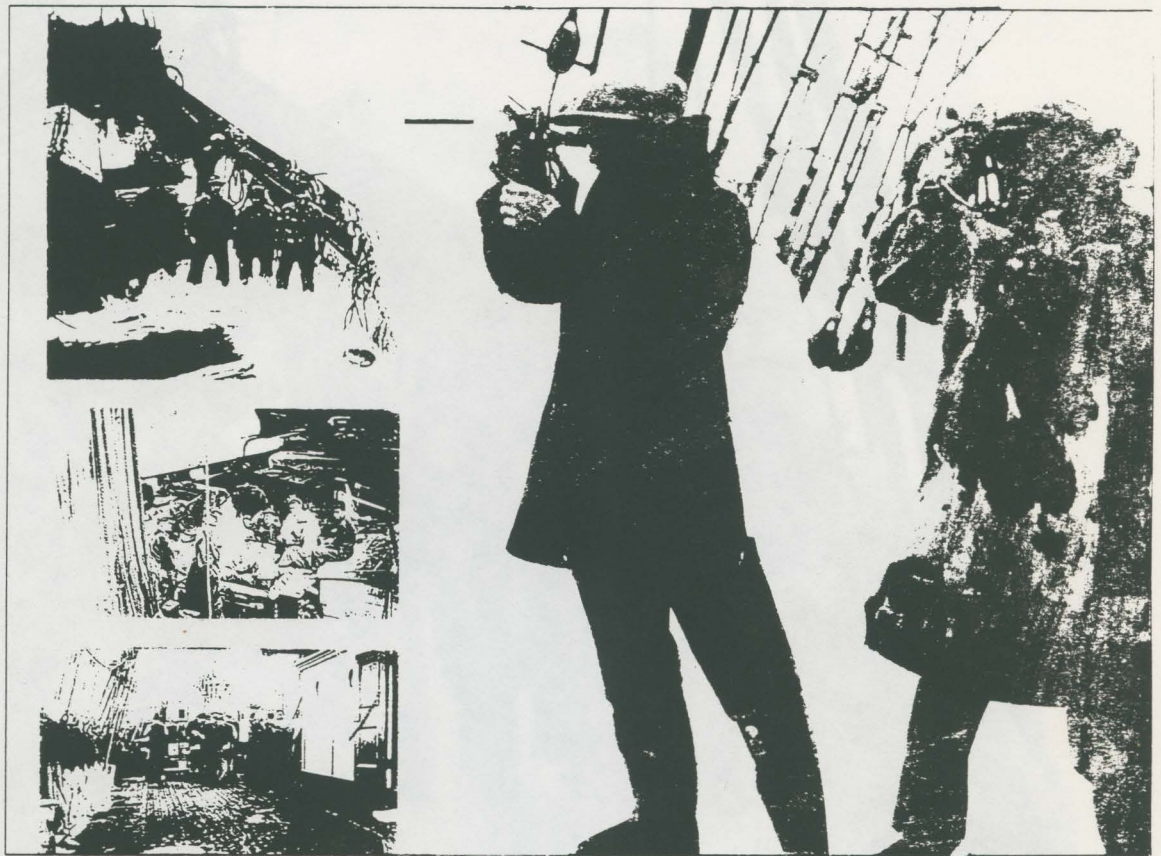
S11-5 Chinese cannery hands eat a meal at the forward end of the maindeck. This is early in the *Star of Alaska's* career, before the Chinese galley was moved under the fo'c's'le head in 1911.

S11-6 Heavy weather on the trip north. Determinedly unconcerned by seas washing across the deck, a gang of fisherman-seamen pose for a picture. One of the Chinese gang, wisely holding on, makes his way aft.

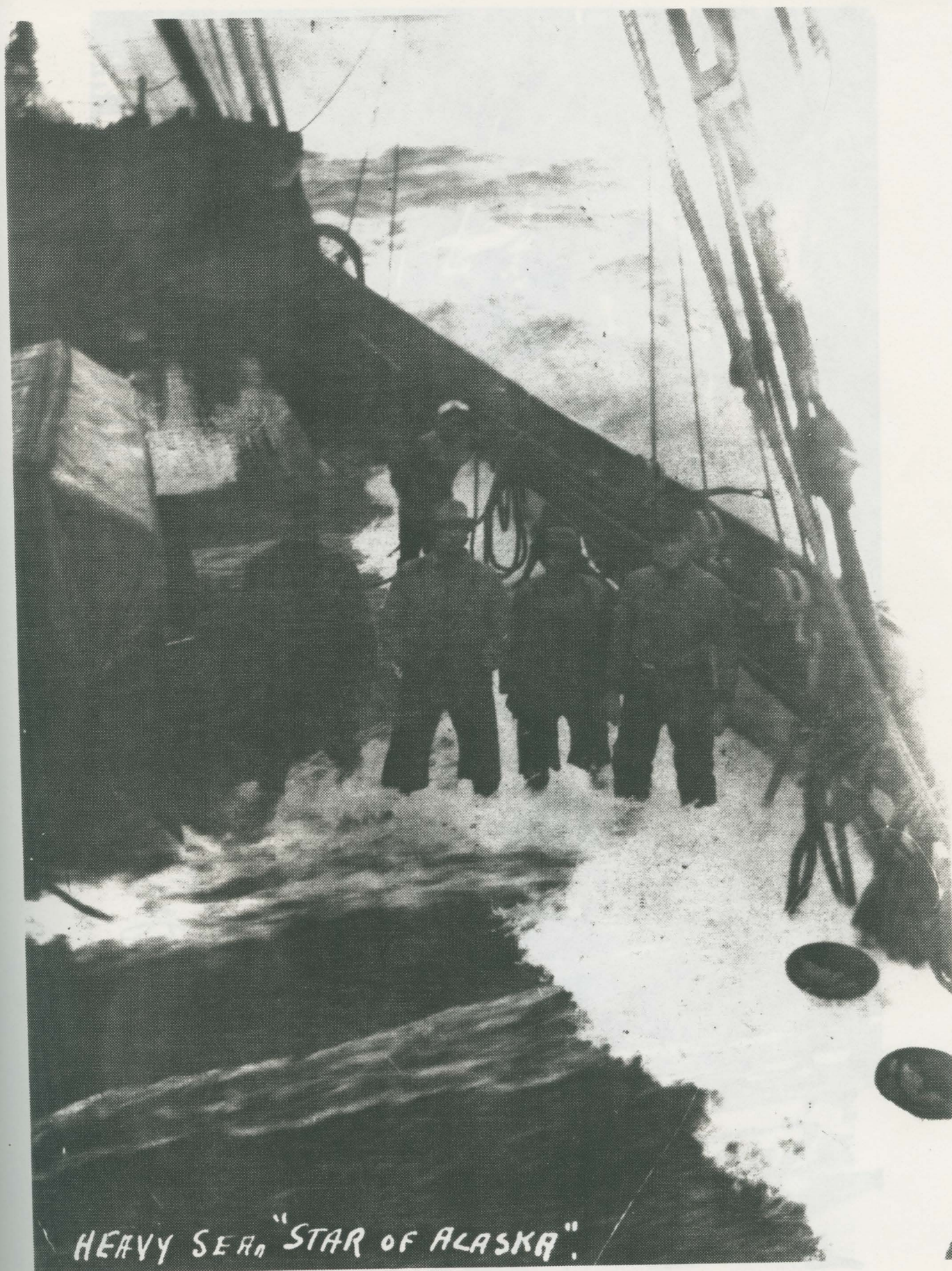
S11-7 A gang of Italian fishermen gather on the main hatch. Some of the men are preparing nets, either for fish traps or beach seines. The mood is obviously relaxed.

S11-8 Captain Bertonccini, in a fur parka, and his mate shoot the sun aboard the *Star of Alaska* in 1925. Bertonccini, who made only one voyage as an Alaska Packers master, was an old whaler, at home in Northern waters.

Shelterdeck Panel # 11

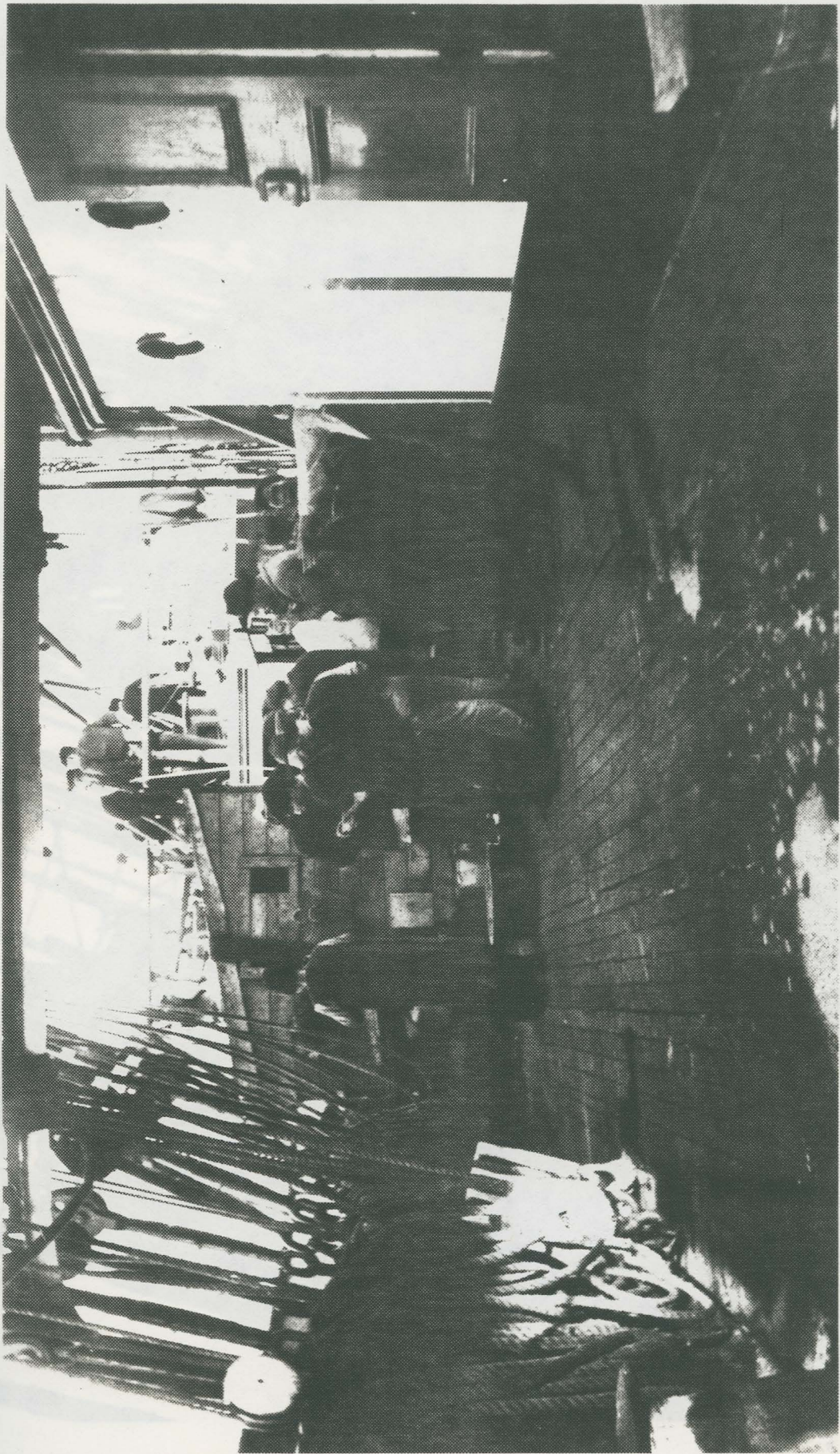


Shelterdeck Panel # 11



HEAVY SEA, "STAR OF ALASKA".









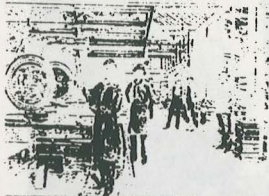
CANNING SALMON

"The packing of all salmon in these canneries by Chinamen, and its very unpalatable quality. The Chinamen make little gain, receive the fish as it is, and the quality of labor enables product to multiply shipment. Commodore Jeffers and I believe
The laborer and fish— Fisheries of Alaska, 1899

Chignik were not only small "dime loaf" canneries, packing not only 60 to 70 cases per season. The fleet of the fleet's range of 18,000 to 20,000 was composed of the many small vessels. Virtually all the fish landed at Chignik were sold and eaten.

Fish delivered to the canneries were first washed and graded. The washers by hand in the early years, but after about 1915 a machine called an "iron-chink" did the initial handling. The fish was placed on one end of a long conveyor belt, and then went to a filling machine which inserted the lengths into cans. Picking and sorting machines sorted the cans. Canning was done by steam in tanks, etc., and return. The finished cans went west, and finally labeled.

Chignik canneries were first used to gang the eight New Peninsula fish canneries. A grand prize for the season's pack was given to the canneries, who provided all necessary provisions for the Chinamen, and for the crew. In the 1930s the canneries, the Chinamen, and the Chinamen's canneries were the main economic source of the region. The main economic source was the Chinamen, who were working and being separately.

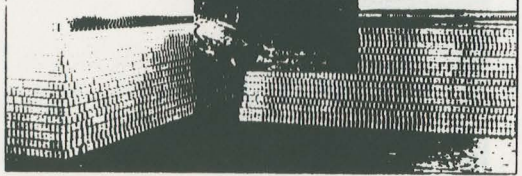
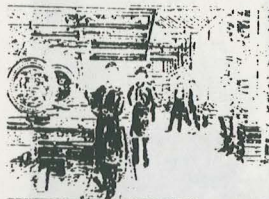


"The packing at all canneries is done entirely by Chinese, and it is very satisfactory labor. The Chinese make little noise, receive the fish on the dock, and do all the labor until the product is ready for shipment. Commander Jefferson F. Mason, The Salmon and Salmon Fisheries of Alaska, 1900.

Chicago was a relatively small "three lanes" economy, putting out only \$5 to 70 cents per minute. The Star of Alaska's average of \$1,000 to 70,000 cents per minute was the exact reverse. Virtually all the fish caught at Chicago were redfish and men.

Fish delivered to the cannery were first washed and gutted. This was done by hand in the early years, but after about 1915 a machine called an "iron child" did the actual gutting. The fish were cleaned one at a time, lengthwise by a cutting machine, and then went to a filling machine which stuffed the lengths into cans. Topping and sealing machines sealed the cans. Canning was done by steam in rubber-sealed retorts. The finished cans were washed, and finally labeled.

Chamorro cannery hands were hired as a gang through San Francisco labor contractors. An agreed price for the season's pick was paid to the cannerymen, who provided all tools and provisions for the Chinamen, and paid the men. In the 1930s Mexicans, Filipinos and Japanese joined the Chinamen as cannery workers. The two continued to work in gangs, with the violent nationalism working and living separately.


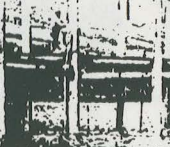



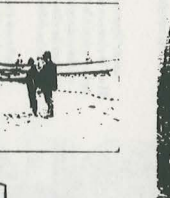
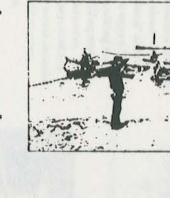
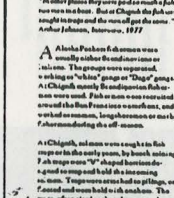


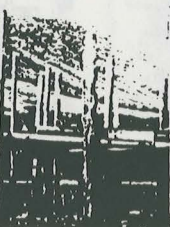


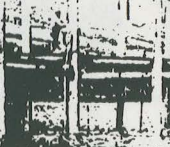



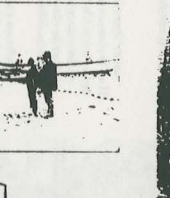
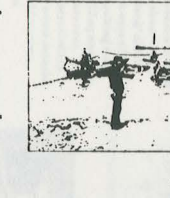
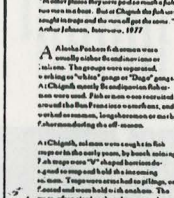


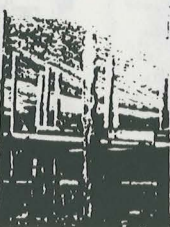


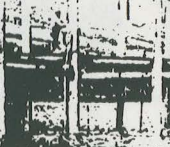



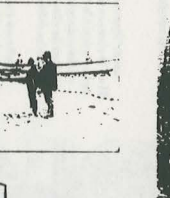
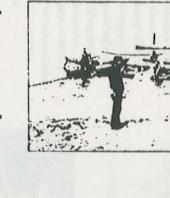
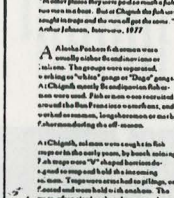


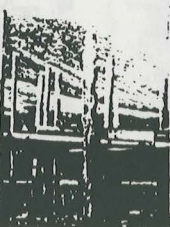


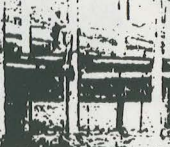



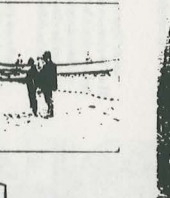
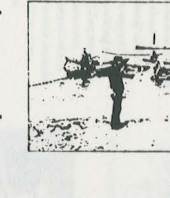
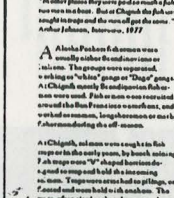


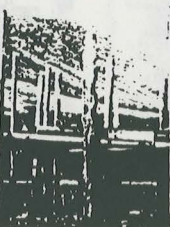


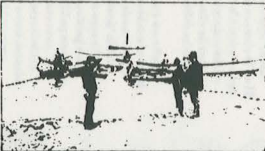


FISHING AT CHIGNIK

"In other places they were paid as much a fish, as was in this. But at Chignik the fish were caught in traps and the men all got the same."

Alaska Pishkun fishermen were usually either from the coast or inland. The groups were organized, working in "white" gangs or "dig" gangs. At Chignik nearly all professional fishermen were used. Fishermen were restricted around the Chin Poon area waterfront, and worked in streams, large streams or the market fisherman during the off season.

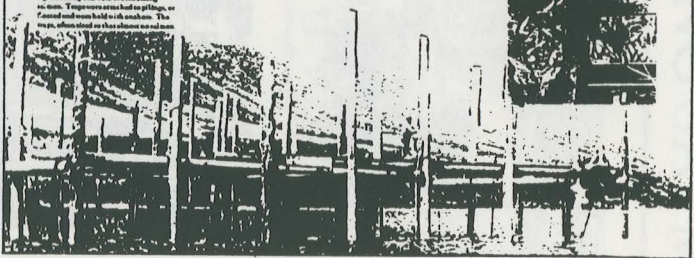
At Chignik, salmon were caught in fish traps in the early years, by beach seines. Fish traps were "W" shaped baskets designed to trap and hold the incoming sea run. Traps were either set by gillnets, or fished and were held in fish canoes. The men, who lived in their boats or salmon

<

* In other places they were paid so much a fish, two men a boat. But at Chagah the fish were caught in traps and the men all got the same." *Arthur Johnson, Interview, 1977*

A Aloha Fishermen fishermen were usually either Scandinavians or Italians. The groups were separated, working on "white" gangs or "Dago" gangs. Although mostly the Scandinavian fishermen were used, fishermen were recruited around the San Francisco waterfront, and worked in teams, longshoremen or mother fishermen during the off-season.

At Chignik, salmon were caught in fish traps or in the early years, by beach seine. Fish traps were "V" shaped horizontal devices and to trap and hold the incoming salmon. Traps were anchored to pilings, or floated and were held with anchors. The



512-CANNERY OPERATIONS (30" x 40")

512-1 Chinese cannery hands were hired as

Title

512-1 CANNING SALMON

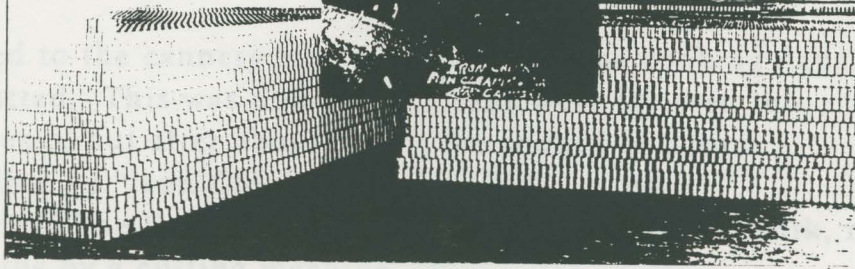
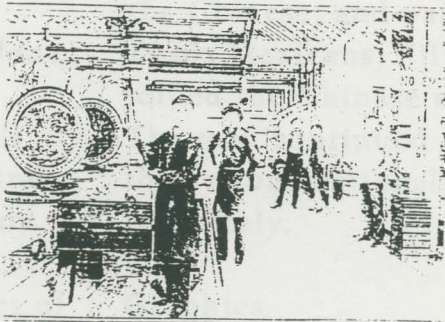
CANNING SALMON

"The packing at all canneries is done entirely by Chinese, and it is very satisfactory labor. The Chinese make all the cans, receive the fish on the dock, and do all the labor until the product is ready for shipment. Commander Jefferson F. Moser, The Salmon and Salmon Fisheries of Alaska, 1899

Chignik was a relatively small "three line" cannery, putting out only 65 to 70 cans per minute. The Sea of Alaska's cargo of 65,000 to 70,000 cases represented the entire yearly output. Virtually all the fish canned at Chignik were redfish salmon.

Fish delivered to the cannery were first headed and gutted. This was done by hand in the early years, but after about 1915 a machine called an "Iron Chink" did the initial butchering. The fish were sliced into can-sized lengths by a cutting machine, and then went to a filling machine which stuffed the lengths into cans. Topping and soldering machines sealed the cans. Cooking was done by steam in tanks called retorts. The finished cans were washed, and finally labeled.

Chinese cannery hands were hired as a gang through San Francisco labor contractors. An agreed price for the season's pack was paid to the contractor, who provided all stores and provisions for the Chinese, and paid the men. In the 1920s Mexicans, Filipinos and Japanese joined the Chinese as cannery workers. The men continued to work in gangs, with the various nationalities working and living separately.





Shelterdeck Panel

Alaska Operations Group

S12- CANNERY OPERATIONS (30" x 40")

Title

S12-1 CANNING SALMON

Quotation

S12-2 "The packing at all canneries is done entirely by Chinese, and it is very satisfactory labor. The Chinese make all the cans, receive the fish on the dock, and do all the labor until the product is ready for shipment." Commander Jefferson F, Moser, The Salmon and Salmon Fisheries of Alaska, 1899.

Key Label

S12-3 Chignik was a relatively small "three line" cannery, putting out only 65 to 70 cans per minute. The *Star of Alaska's* cargo of 65,000 to 70,000 cases represented the entire yearly output. Virtually all the fish canned at Chignik were redfish salmon.

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Graphics

S12-6 Photo, Iron Chink (G10.27,499)

S12-7 Line Cut, Cooking department (Hume pg.29)

S12-8 Photo, stored cans (G10.3,838n)

Captions

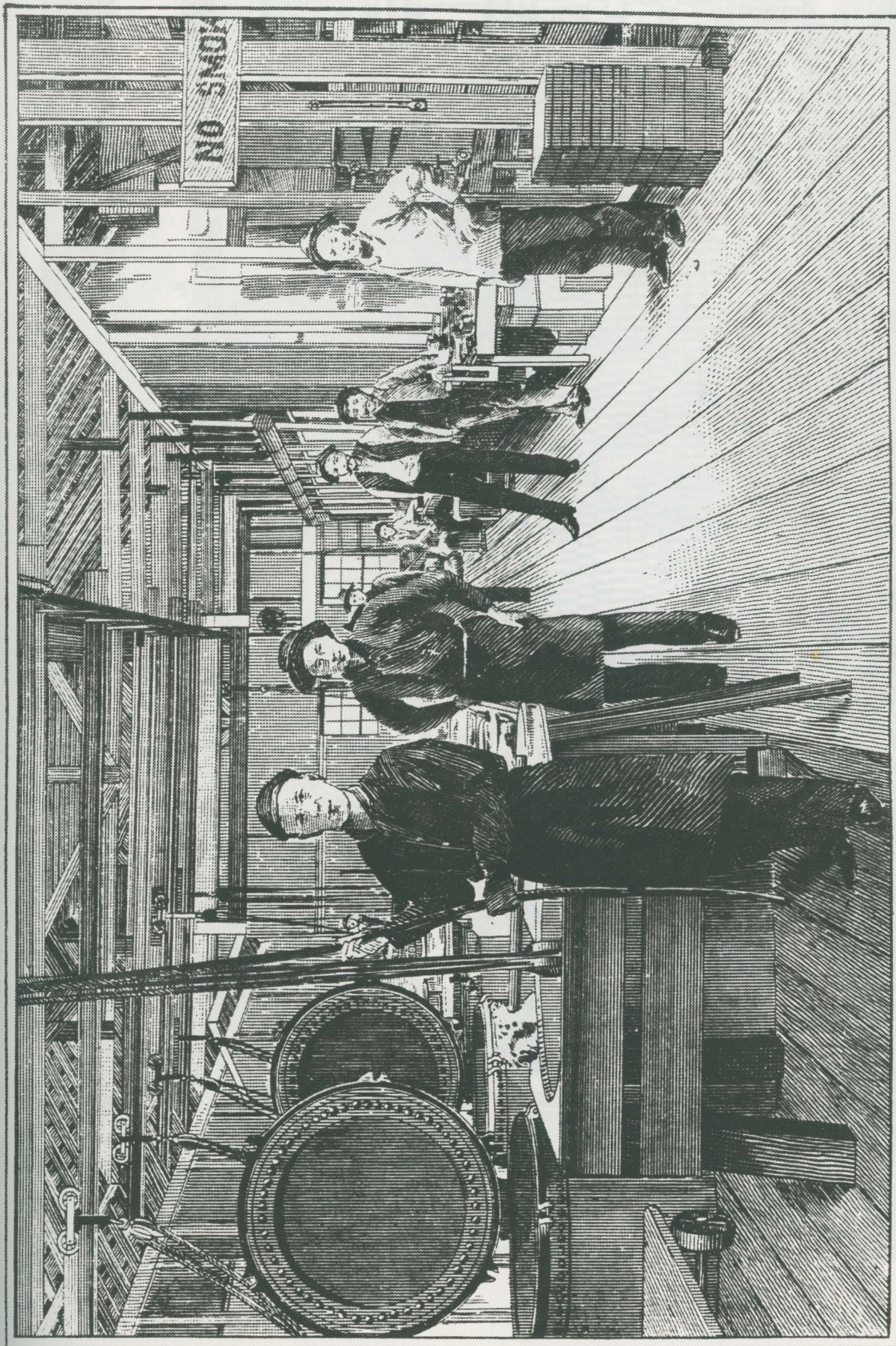
S12-9 The "Iron Chink."

S12-10 The cooking department. Filled cans were lowered into circular "retorts" to be cooked by steam.

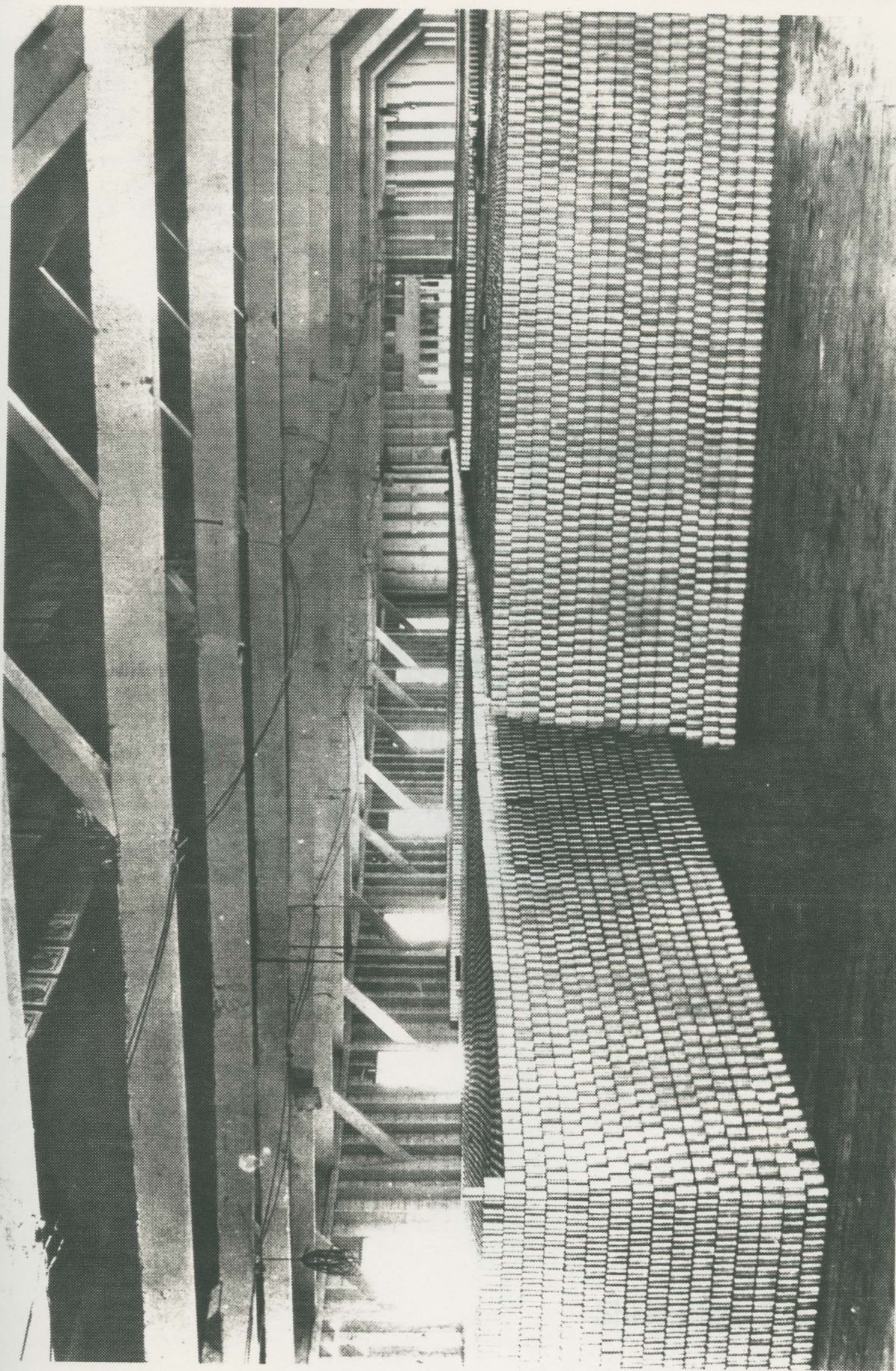
S12-11 Cans at Chignik, ready for labels.



"IRON CHINA"
FISH CLEANING
MACHINE



Cooking Department.



S13- FISHING IN ALASKA (30" x 40")

Graphics

S13-2 Photo fish trap general view

(S13-181726)

Title

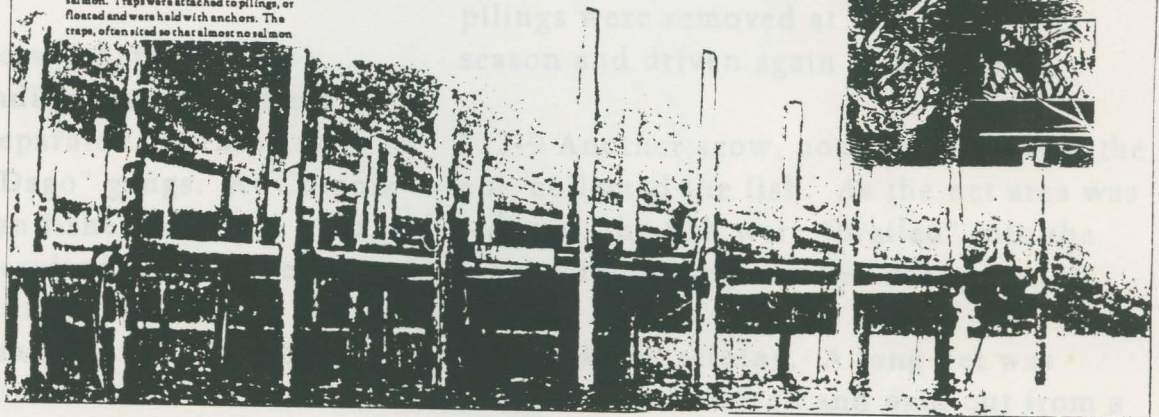
S13-1 FISHING AT CHIGNIK

FISHING AT CHIGNIK

"In other places they were paid so much a fish, two men in a boat. But at Chignik the fish were caught in traps and the men all got the same."
Arthur Johnson, interview, 1977

Alaska Packers fishermen were usually either Scandinavians or Italians. The groups were separated, working as "white" gangs or "Dago" gangs. At Chignik mostly Scandinavian fishermen were used. Fishermen were recruited around the San Francisco waterfront, and worked as seamen, longshoremen or market fishermen during the off-season.

At Chignik, salmon were caught in fish traps or in the early years, by beach seining. Fish traps were "V" shaped barriers designed to trap and hold the incoming salmon. Traps were attached to pilings, or floated and were held with anchors. The traps, often staked so that almost no salmon



Key Label

S13-3 Alaska Packers

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The groups were separated,

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At Chignik mostly Scandinavian

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almost no salmon escaped upstream, were

finally outlawed in 1939.

seine boat in a wide net. The net was then tightened in until the trapped fish could be scooped out into dories.



Shelterdeck Panel

Alaska Operations Group

S13- FISHING IN ALASKA (30" x 40")

Title

S13-1 FISHING AT CHIGNIK

Quotation

S13-2 "In other places they were paid so much a fish, two men in a boat. But at Chignik the fish were caught in traps and the men all got the same." Arthur Johnson, Interview, 1977

Key Label

S13-3 Alaska Packers fishermen were usually either Scandinavians or Italians. The groups were separated, working as "white" gangs or "Dago" gangs. At Chignik mostly Scandinavian fishermen were used. Fishermen were recruited around the San Francisco waterfront, and worked as seamen, longshoremen or market fishermen during the off-season.

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Graphics

S13-5 Photo, fish trap general view (G11.18,177n)

S13-6 Photo, brailing the trap (P77-034n)

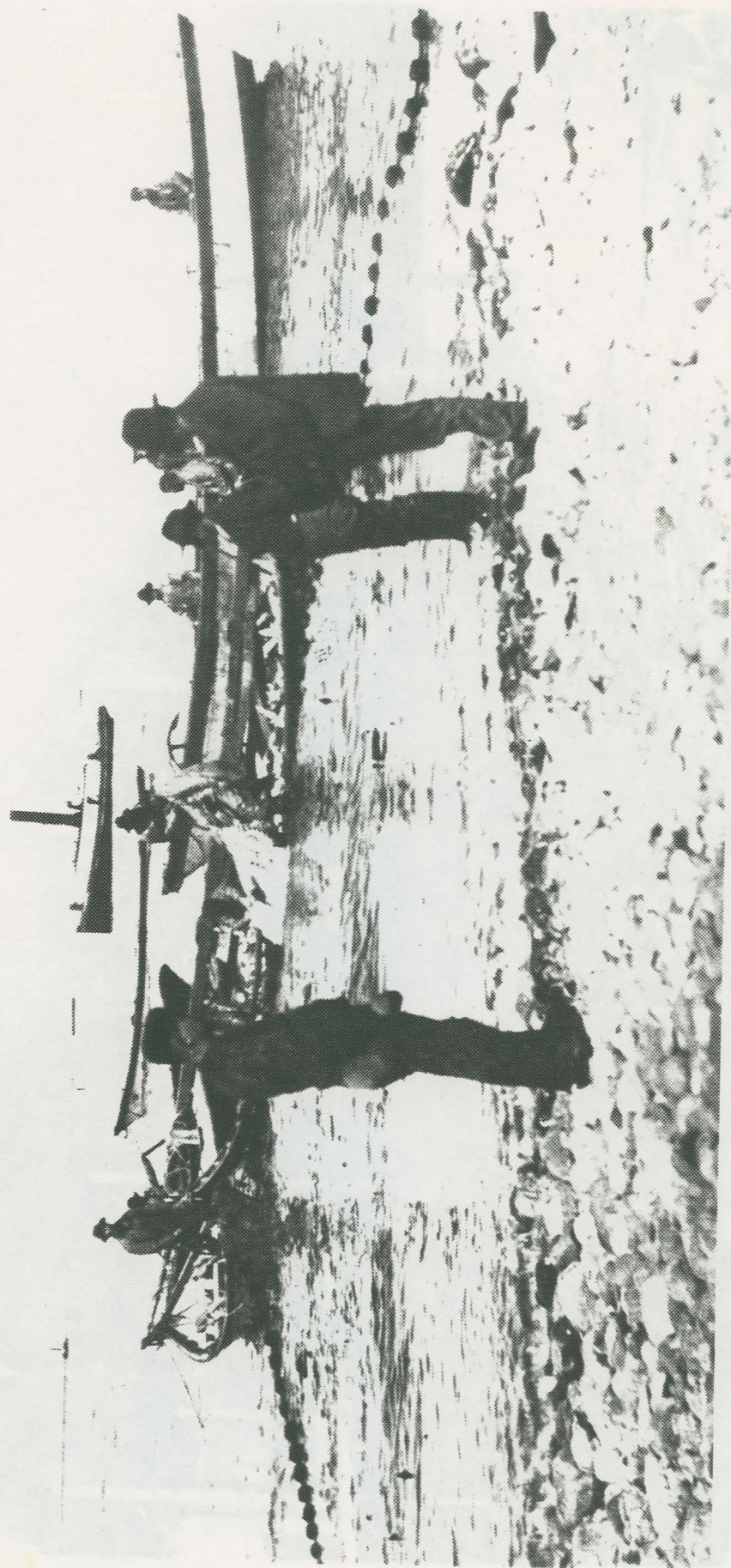
S13-7 Photo, beach seining (G12.3,836)

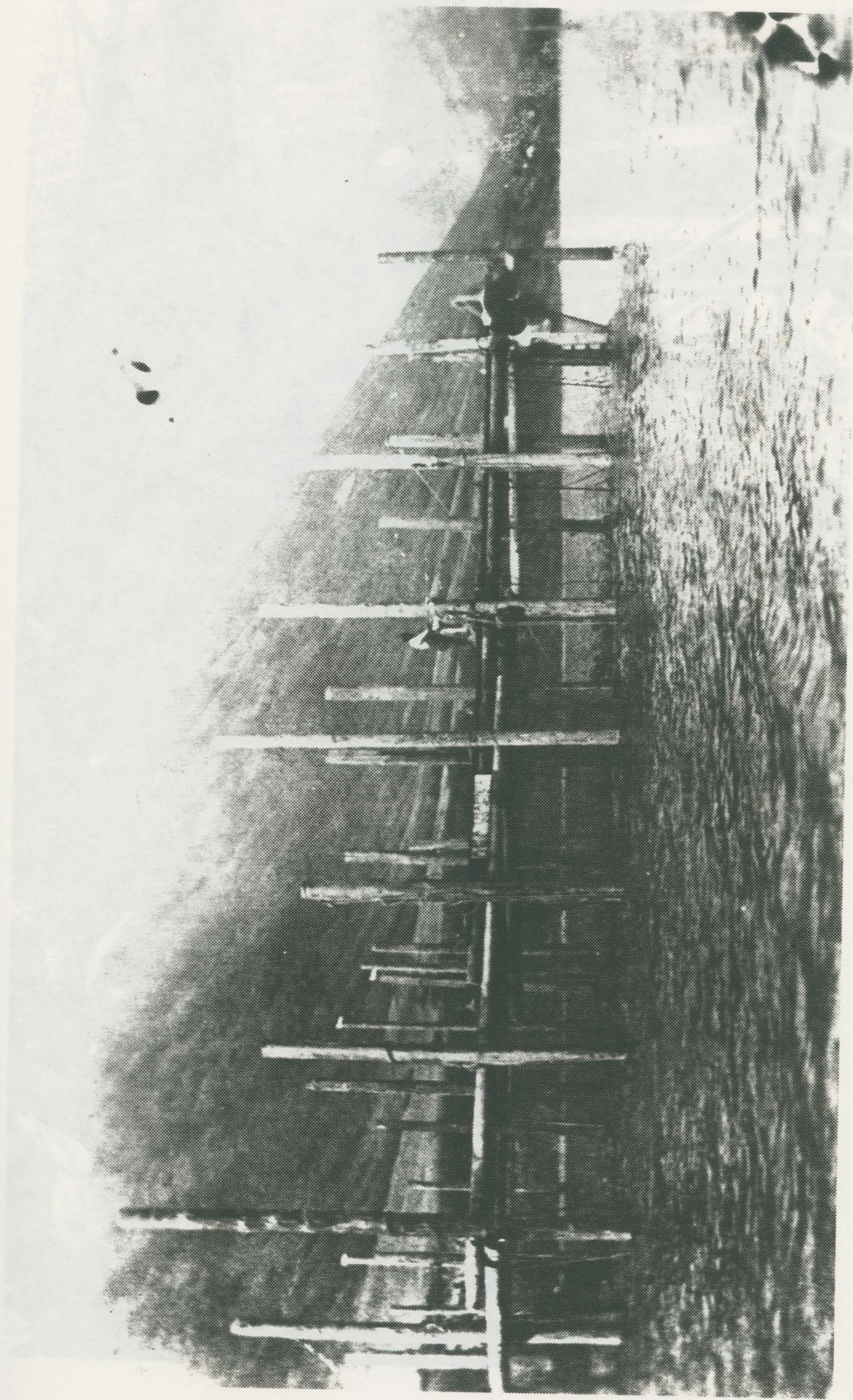
Captions

S13-8 A "pile-driven" fish trap. This is the central "pot" area. Wings, often hundreds of yards long, herded fish into the trap. All pilings were removed at the end of the season and driven again in the Spring.

S13-9 Another scow, positioned outside the pot, collected the fish. As the net area was reduced, the fish were "brailed" into the scow using a long-handled scoop net.

S13-10 Beach seining. A long net was anchored to the beach and paid out from a seine boat in a wide arc. The net was then tightened in until the trapped fish could be scooped out into dories.







Shelterdeck Panels # 14 and 15

THE PACIFIC QUEEN

"Frank Kiewit was an excellent seaman, a good sailor, and a good man. They would make a fine ship, and I would like to see it sailing again." - Memoir of Jack Kiewit, known as The Pacific Queen, 1913

In September of 1913 Frank Kiewit bought the Star of Alaska for \$100,000, and changed her name to the Pacific Queen. Kiewit planned to display her as a floating museum. The ship was painted white and red. Fish tanks were built in the maindeck and a small village was built. In early 1914 the ship sailed from San Pedro.

Enlisted on San Pedro, with her fish, the Pacific Queen was a busy ship. It was the "floating museum on the Pacific" made her name. The ship sailed to San Diego in 1914. A voyage to Mexico to inspect the coast. In 1915 the Pacific Queen was in San Francisco, and was shown at the Panama-Pacific Exposition. "The ship was a success."

At World War II ended, the Pacific Queen was sold to the Navy. She was used as a transport ship. She was used in the Pacific, and by the end of the war was in San Francisco. Frank Kiewit died in 1915 and the ship passed on to the Navy. The ship was sold to the Maritime Museum in 1915. After years of negotiation, the Maritime Museum bought the ship for a price of \$100,000.



AFTER LEAVING THE ALASKA PACKERS, THE STAR OF ALASKA BECAME AN EXHIBITION SHIP UNDER THE NAME PACIFIC QUEEN.

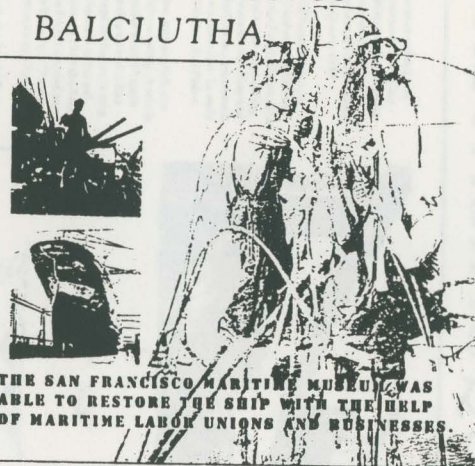
THE RESTORATION OF BALCLUTHA

"The old Balclutha is a treasure trove of maritime history, and it is a shame we could have it here with such a fine crew. The reason, plenty of labor, plenty of supplies, plenty of time." - Letter from Karl Kiewit, Museum Director, to Harry Dring, 1914

The Maritime Museum in 1914 received the Pacific Queen in July 1914 and moved her to San Francisco in September. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914.

Over the next year, a number of volunteers were recruited to restore the ship. Eighteen months later, in 1915, the ship was restored. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914.

In July of 1915 the ship was moved to Fisherman's Wharf. There was a new restoration of the Balclutha and again in 1915. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914. The ship was in San Francisco in 1914.



THE SAN FRANCISCO MARITIME MUSEUM WAS ABLE TO RESTORE THE SHIP WITH THE HELP OF MARITIME LABOR UNIONS AND BUSINESSMEN.

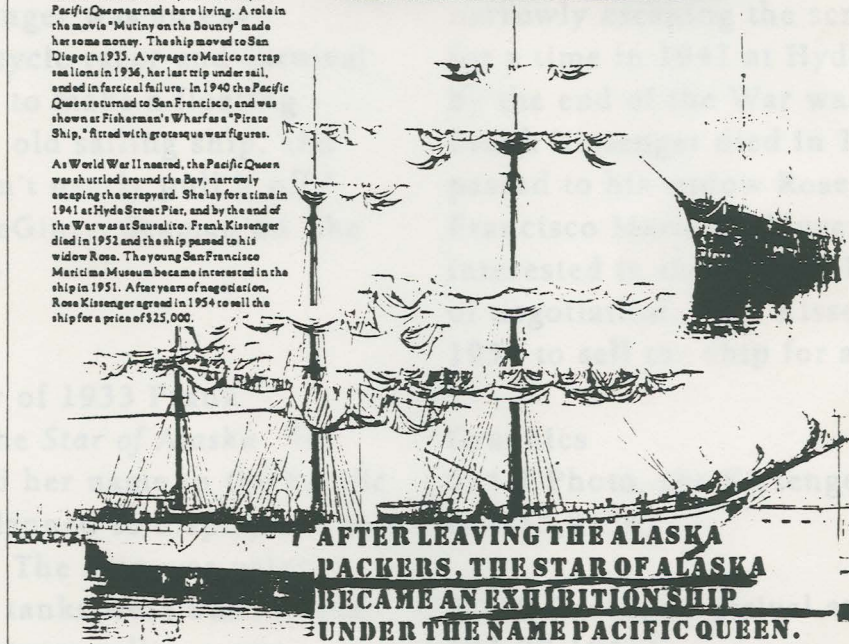
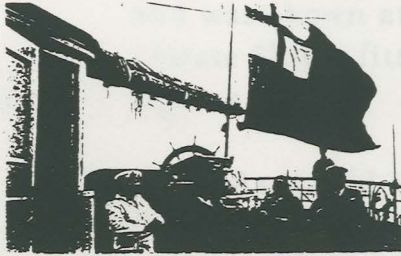
THE PACIFIC QUEEN

"Frank Kissenger was an ex-roller-drome motorcycle racer and carnival man. They wanted to make a floating showboat out of an old sailing ship, and damned if they didn't nearly pull it off." *Memories of Jack McGinley, Seaman on The Pacific Queen, 1933*

In September of 1933 Frank Kissenger bought the *Star of Alaska* for \$5000, and changed her name to the *Pacific Queen*. Kissenger planned to display her as a floating aquarium. The ship was painted silver and red, fish tanks were built in the tween deck, and a steam calliope was installed. In early 1934 the ship sailed South to San Pedro.

Exhibited at San Pedro, without fish, the *Pacific Queen* earned a bare living. A role in the movie "Mutiny on the Bounty" made her some money. The ship moved to San Diego in 1935. A voyage to Mexico to trap sea lions in 1936, her last trip under sail, ended in farcical failure. In 1940 the *Pacific Queen* returned to San Francisco, and was shown at Fishermen's Wharf as a "Pirate Ship," fitted with grotesque wax figures.

As World War II neared, the *Pacific Queen* was shuttled around the Bay, narrowly escaping the scrapyard. She lay for a time in 1941 at Hyde Street Pier, and by the end of the War was at Sausalito. Frank Kissenger died in 1952 and the ship passed to his widow Rose. The young San Francisco Maritime Museum became interested in the ship in 1951. After years of negotiation, Rose Kissenger agreed in 1954 to sell the ship for a price of \$25,000.



AFTER LEAVING THE ALASKA PACKERS, THE STAR OF ALASKA BECAME AN EXHIBITION SHIP UNDER THE NAME PACIFIC QUEEN.



Shelterdeck Panel

Post-commercial Goup

S14- PACIFIC QUEEN (30" x 40")

Title

S14-1 THE PACIFIC QUEEN

Lead

S14-2 After leaving the Alaska Packers, the *Star of Alaska* became an exhibition ship under the name *Pacific Queen*.

Quotation

S14-3 "Frank Kissenger was an ex-rollerdrome motorcycle racer and carnival man. They wanted to make a floating showboat out of an old sailing ship, and damned if they didn't nearly pull it off." *Memoirs of Jack McGinty, Seaman on The Pacific Queen, 1933*

Key Label

S14-4 In September of 1933 Frank Kissenger bought the *Star of Alaska* for \$5000, and changed her name to the *Pacific Queen*. Kissenger planned to display her as a floating aquarium. The ship was painted silver and red, fish tanks were built in the tween deck, and a steam calliope was installed. In early 1934 the ship sailed South to San Pedro.

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S14-6 As World War II neared, the *Pacific Queen* was shuttled around the Bay, narrowly escaping the scrapyard. She lay for a time in 1941 at Hyde Street Pier, and by the end of the War was at Sausalito. Frank Kissenger died in 1952 and the ship passed to his widow Rose. The young San Francisco Maritime Museum became interested in the ship in 1951. After years of negotiation, Rose Kissenger agreed in 1954 to sell the ship for a price of \$25,000.

Graphics

S14-7 Photo, the Kissengers on deck (C9.35,913n)

S14-8 Photo, on arrival at San Pedro (D1.20,184n)

S14-9 Photo, at Sausalito (B1.40,482n)

Captions

S14-10 Frank and Rose Kissenger, in new camel hair coats, take their ease on the



Shelterdeck Panel

Post-Commercial Group

Pacific Queen's poop during the filming of "Mutiny on the Bounty" at Catalina Island.

S14-11 The *Pacific Queen* newly arrived at San Pedro. Her paint looks good, but money was so short that most of the crew was let go. The local fire department had to lend a hand to furl the sails.

S14-12 The *Pacific Queen* off Sausalito in 1952. She had not been hauled or painted since the 1930s, and the rigging was beginning to fall apart. She was, however, remarkably complete and basically sound.







S15- RESTORATION (30" x 40")

contributed \$200,000 in goods and services.

Hundreds of volunteers offered their time.

The ship was towed to the City's past.

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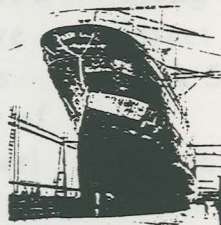
THE RESTORATION OF BALCLUTHA

"The old Balclutha is receiving not a make shift overhaul, such as I thought we would have to live with, but a first class job. The reason: plenty of labor, plenty of supplies, plenty of time." Letter from Karl Kortum, Museum Director, to Harry Dring, 1954

The Maritime Museum took control of the Pacific Queen in July 1954 and towed her to San Francisco to be dry-docked for the first time since 1930. The bottom was in surprisingly good shape and the Museum was able to pay for minor immediate repairs.

Over the next year, a remarkable volunteer effort was mounted to restore the ship. Eighteen maritime labor unions contributed 13,000 hours of labor. Ninety firms, including local shipyards, contributed \$100,000 in goods and services. Hundreds of individuals offered their time. The ship united San Francisco's maritime community to save a bit of the City's past.

In July of 1955 the ship was towed to Fishermans Wharf. There she was rechristened the Balclutha and opened to appreciative crowds. For the next twenty years she supported both herself and the programs of the Maritime Museum. In 1978 the Balclutha and the Maritime Museum, along with the State Historic Park at Hyde Street Pier, became part of the National Park System.



**THE SAN FRANCISCO MARITIME MUSEUM WAS
ABLE TO RESTORE THE SHIP WITH THE HELP
OF MARITIME LABOR UNIONS AND BUSINESSES.**





Shelterdeck Panel

Post-Commercial Group

S15- RESTORATION (30" x 40")

Title

S15-1 THE RESTORATION OF THE
BALCLUTHA

Lead

S15-2 The San Francisco Maritime Museum was able to restore the ship with the help of maritime labor unions and businesses.

Quotation

S15-3 "The old *Balclutha* is receiving not a makeshift overhaul, such as I thought we would have to live with, but a first class job. The reason: plenty of labor, plenty of supplies, plenty of time." Letter from Karl Kortum, Museum Director, to Harry Dring, 1954

Key Label

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Graphics

S15-7 Photo, first haul-out (B4.35,640n)

S15-8 Photo, Karl clears rubbish
(B9.40,478n)

S15-9 Photo, mizzen topmast head
(B16.40,835n)



Shelterdeck Panel

Post-Commercial Group

Captions

S15-10 The *Pacific Queen* dry-docked at Bethlehem Shipyard in 1954. Hauled for the first time since 1930, she was very foul, but in better condition than expected. The remains of paint applied in 1935 for her "Mutiny in the Bounty" role, on the starboard side only, can be seen.

S15-11 Karl Kortum, Director of the San Francisco Maritime Museum, begins to clear rubbish from the decks. More than any other individual, it was Kortum's vision and drive that pushed the Museum to undertake and carry out the restoration.

S15-12 Volunteer riggers, perched at the head of the mizzen topmast, begin to clear away the old topgallant rigging. Old hands, veterans of the last of the sailing ships, worked with younger men, eager to master the complexities of the traditional riggers art.



